THE BUILDER

a Journal for the ARCHITECT & CONSTRUCTOR

VOL. CLVIII MAY 3 1940 No. 5074

SUMMARY OF CONTENTS

CURRENT ARCHITECTURE

(Illustrated) PAGE

Military Camps.

DESIGNS SHOWING ALTERNATIVE POST-WAR USES. MR. STANLEY HAMP, F.R.I.B.A., ARCHITECT. ... 526

Hospital.

UNIVERSITY OF BRISTOL DENTAL HOSPITAL. MR. EUSTACE H. BUTTON, R.W.A., F.R.I.B.A., ARCHITECT ... 533

Licensed Premises.

THE "TARGET" PUBLIC HOUSE, WESTERN AVENUE, NORTHOLT. MR. ROBERT G. MUIR, F.R.I.B.A., ARCHITECT ... 537

Ecclesiastical Architecture.

CENTRAL SECTION, LIVERPOOL ANGLICAN CATHEDRAL ... 522

ARTICLES AND NEWS

LEADING ARTICLE: LOOKING FORWARD ... 521
NOTES AND NEWS ... 523
THE DILEMMA OF THE BUILDING INDUSTRY: MR. BOSSOM'S STATEMENT TO MEMBERS OF PARLIAMENT ... 524
PROBLEMS OF WAR-TIME BUILDING ... 525
WAR-TIME BUILDINGS: CONSTRUCTION IN THE LIGHT OF PEACE-TIME USES ... 526
ARCHITECTURAL EDUCATION. BY H. S. GOODHART-RENDEL, P.-P.R.I.B.A. ... 531
SOCIETIES AND INSTITUTIONS: WEST YORKSHIRE SOCIETY OF ARCHITECTS ... 532
THE CASE FOR PRE-FABRICATION: LECTURE AT THE ARCHITECTURAL ASSOCIATION ... 538
PLASTICS AND BUILDING: LECTURE AT THE ROYAL SOCIETY OF ARTS ... 539
LAW REPORT ... 540
A.A.S.T.A.: EVACUATION CONFERENCE, HULL ... 540
THE LONDON BUILDING ACTS.—IV. SETTLEMENT OF DISPUTES AND DIFFERENCES. BY W. T. CRESWELL, K.C., ASSISTED BY NORMAN P. GREIG, B.A. ... 541
EMERGENCY INQUIRY BUREAU ... 541
CONCRETE SHUTTER PLATES: A SUBSTITUTE FOR TIMBER ... 542
IN PARLIAMENT ... 542
OFFICIAL NOTIFICATIONS ... 542

A.R.P. INFORMATION

SAFETY LIGHTS FOR A.R.P. PURPOSES ... 543
A.R.P. SCHEMES ... 544

BUILDING INFORMATION

CONTRACTS OPEN ... 545
NEW BUILDINGS IN LONDON ... 546
CURRENT AND PROPOSED BUILDING WORK ... 547
RATES OF WAGES IN THE BUILDING INDUSTRY ... 548
PRICES CURRENT OF MATERIALS ... 549
THE SCOTTISH BUILDER ... 550
TENDERS ... 551

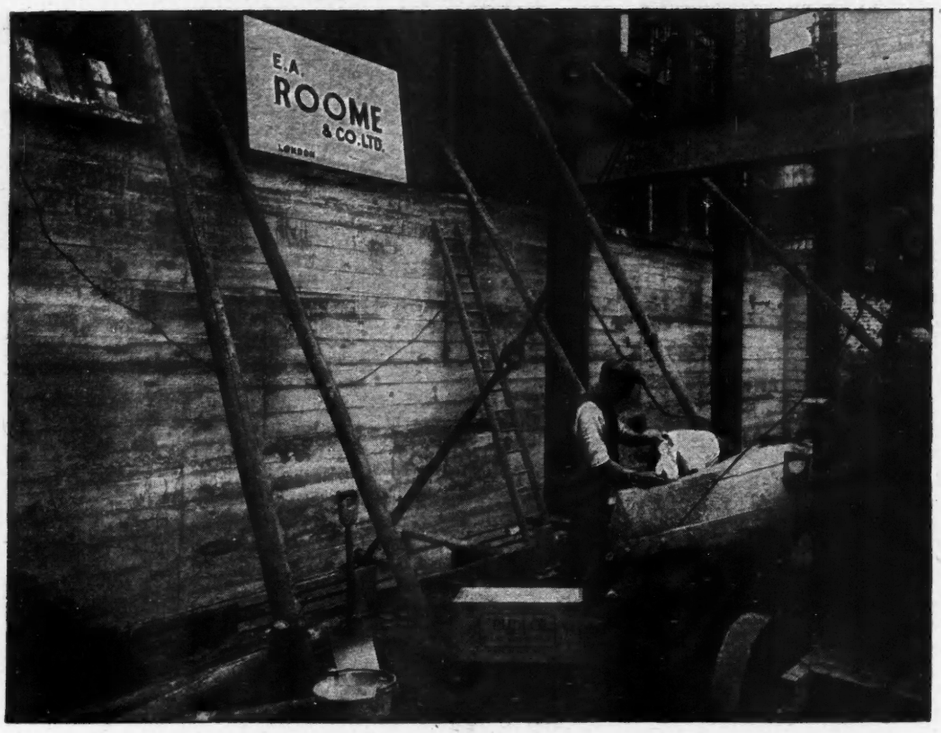
EVERY FRIDAY 9D.

THE BUILDER LIMITED

CATHERINE STREET AND TAVISTOCK STREET, ALDWYCH, LONDON, W.C.2.

Telegrams: "The Builder" (Rand) London Telephone: Temple Bar 6251-2-3

RETAINING WALLS IN THE CITY OF LONDON



PREMISES, PAUL & WHITFIELD STREETS,
SHOREDITCH, E.C.

Architects :
RILEY & GLANFIELD, F.R.I.B.A.,
LONDON.

Contractors :
MESSRS. E. A. ROOME & CO., LTD.
LONDON.

READ HOW THIS BASEMENT WAS MADE WATERPROOF

with the greatest simplicity and at a much less cost than would have been involved by any other method that could have given equal security. In the design of the reinforced concrete the only consideration required was to provide the necessary structural strength. This concrete was mixed 4 : 2 : 1 and the addition of 3 lb. of 'PUDLO' Brand waterproofer to each 100 lb. of the cement gave it the complete impermeability so essential to a dry basement. The floor of the basement is also of concrete similarly waterproofed, and the results have proved eminently satisfactory. Similar measures are most suitable for underground air raid shelters and provide a high degree of security. Ask for Specification 5.A.

'PUDLO'
BRAND
CEMENT WATERPROOFER

KERNER-GREENWOOD & COMPANY, LIMITED
ST. ANN'S KING'S LYNN.

Sole Proprietors and Manufacturers Od. P. St.

The word 'PUDLO' is the Registered Trade Brand of Kerner-Greenwood & Co., Ltd., by whom all articles bearing that Brand are manufactured or guaranteed.

THE BUILDER

INCORPORATING

"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

VOL. CLVIII MAY 3 1940 No. 5074

LOOKING FORWARD

THE immediate problem facing the building industry—to secure Cabinet acknowledgment of both the short- and the long-term value of permitting some degree of capital expenditure upon construction other than that immediately connected with the conduct of the war—is one which is concerned more with the aim than with the weight of the shot and shell of arguments which lie to its hand. These latter, having the force not only of logic but of past experience as well, are indeed incontrovertible; the task is to bring them to bear in the most effective quarter.

Attention paid to Government building Departments in the past have inevitably revealed the hand of the Treasury, on which it is clear argument and pressure must be directed if anything is to be left of the industry at the coming of Peace, other than a few dozen inflated building concerns. That pressure can be exerted only through the Cabinet, which, in turn, can be influenced only by a convinced and sufficiently large body of feeling in the House of Commons.

In a letter last week, Mr. Greaves suggested that the Allied Societies of the R.I.B.A. should organise reasoned appeals to their local Members—which suggestion we heartily endorsed. None the less useful, because coincident in point of time, are the efforts which Mr. Alfred Bossom, M.P., is making at the other end of the Parliamentary ladder—in the House itself. The latest of these took the form of a meeting at the House yesterday, at which a group of Members considered, in the light of a memorandum drawn up by Mr. Bossom, what steps should be taken next to maintain the building industry in an efficient state.

The Memorandum (which is reproduced in full on page 524) is prefaced by a brief survey of the facts, figures and arguments for the encouragement of certain constructional works; with the purpose of avoiding in Government building programmes the mistakes of 1914-18 (when all such forms of construction were of such a nature that, when their immediate purposes were fulfilled, they were allowed to become derelict, and when a rusty industry, coupled with an absence of any pre-planning, produced the chaotic conditions which marked the post-Armistice period) there follows a recommendation that an effective Central Co-ordinating Authority be set up to direct the entire building situation, with local decentralisation to spread available work into as many channels as possible. The Memorandum also contains—under a number of heads—the outlines of a system on which the proposed Authority might function.

With most of the proposals the industry, we think, will generally agree, and we shall be surprised if the arguments so marshalled have not made a strong appeal to Thursday's meeting. If this demonstration of facts to groups of M.P.s is reinforced and amplified by the approach, through the Allied Societies, to individual Members, then a time must come when there will be in the House a body of informed expert opinion sufficient in strength and conviction to secure a reversal of the Treasury's policy of masterly inactivity.

One part of Mr. Bossom's statement we have noted with special interest; we refer to the need expressed to envisage the utmost degree of utilisation, at the end of the war, of all war constructions. The staggering cost of this conflict imposes on the Government the solemn duty of salving whatever permanent values there may be possible from this expenditure. Where construction is concerned this can be achieved only by making use of the trained minds of the industry, either in siting and planning buildings in permanent materials in such a way that with some small degree of alteration they can be utilised at the end of the war for a peacetime purpose, or by devising actual methods of construction which permit dismantling and the re-erection of the units on the same or other sites in different forms—*e.g.*, as houses, hospitals, schools.

We are able to illustrate in considerable detail this week a form of unit construction devised by a group of experts headed by Mr. Stanley Hamp, F.R.I.B.A., which not only dispenses with timber, and, to a large extent, with steel, but is capable of being dismantled at the end of any period of use and re-erected in a variety of plan-shapes for alternative purposes. These proposals have been worked out in great detail, and have been priced by contractors; the system is claimed to be cheaper than other forms now being used, while yet having this vastly important salvage value. This latter asset cannot, we feel, be stressed too strongly, for it would provide the supervising and labouring sections of the industry at the end of the war with a ready-made reservoir of work upon which to draw the while private enterprise and commercial undertakings are considering expansion.

We commend consideration of this scheme to the Government's attention. It is not essential, of course, that this or any particular system be utilised if a better can be found; but what is essential, we submit, is that the dominating aim of the system be fully explored, and, if found worthy, acted upon so that some permanent physical gain be salvaged from the inevitable waste of war.

THE CENTRAL SECTION, LIVERPOOL ANGLICAN CATHEDRAL.

The completion of the stonework surrounding the triple doorways on either side of the Under Tower of Liverpool Cathedral has enabled this view to be taken of the Central Section which, in spite of the unfinished condition of the floor, conveys the marked sense of spaciousness. Our photograph is reproduced by courtesy of the Liverpool Cathedral Committee.

NOTES AND NEWS

Architecture at the Academy.

THE first war-time Academy will open at Burlington House on Monday next. So far as architecture is concerned it will be found to be very much as expected. The quality of the work is perhaps rather above the average and the draughtsmanship well up to standard, but with few points of special interest. The general character of the work on view is traditional, and several exhibits are old friends. There are few indications of the progressive movement. There is a slight decrease in the number of exhibits—141 as against 144 last year. The hanging is excellent and no drawing is skied. Among the Academicians and Associates, Sir Reginald Blomfield, Sir Giles Scott, and Mr. A. J. Davis do not exhibit. It is a good year for models, those of the University of London new buildings, Bloomsbury (Mr. Charles Holden, architect), and of the proposed new Wellington Barracks, Birdcage-walk (Mr. Arthur W. Kenyon, architect), being of particular interest. We shall publish a special illustrated review of the Exhibition in our next issue.

Housing in France.

A DECREE in a recent *Journal Officiel* shows that the Government will encourage building. The decree promises advances to businesses wishing to build homes for their employees. This measure will give preference to factory owners whose establishments are at a distance from large towns. The advances will be made in instalments as the houses go up. Repayments will be spread over a period of 10 years.

What is a Priority Certificate?

THE week's brightest news comes from the Adelphi, whence the Ministry of Supply has issued a four-page explanation of the Government's priority organisation. Many people have asked the seemingly straightforward question, "What is a Priority Certificate?" Here, at last, is the official answer, for which the building industry has been waiting:—

"The Government Priority Organisation," we are assured, "is extensive." At the head of it is a Cabinet Ministerial Priority Committee under which are six Priority Sub-committees, on all of which the interested Government Departments are represented. These are kept in their place by a Department known as the Central Priority Department located in the Ministry of Supply, ". . . which is responsible for the general administration of the priority system on behalf of all Departments. No priority certificate can be issued without a notification from this Department."

At this point the average architect or contractor might with some justice feel that if a Government Department has thus to be subjected to scrutiny, the private person's chances of getting material in short supply would be slim. Take courage, faint heart! For the next sentence reads: "It is not at present intended to issue priority certificates on any substantial scale. *In fact, no priority certificates at all have yet been issued.*"

R.A. Elections.

AT the Royal Academy elections held on Friday last, Mr. Charles Wheeler A.R.A., was elected a full member. Miss Ethel Walker, painter, and Mr. Henry Lamb, painter, were elected Associates of the Royal Academy, and M. Carl Milles, sculptor, and M. Pierre Bonnard, painter, were elected Honorary Academicians.

Iron Park Railings.

MR. JAMES MELVIN, A.R.I.B.A., has been appointed to make a survey of the parks and squares in London and the large provincial cities with a view to advising local authorities upon the possibility of removing them for use as war material. It is understood that the Ministry of Supply, which has inaugurated this move, does not intend to seek compulsory powers, but is working in co-operation with local authorities.

Waterloo Bridge Progress.

THE question of the completion of the new Waterloo Bridge under war conditions has been considered by the London County Council, and arrangements have been made for the work on the Portland stone facing of the spans to proceed in accordance with the contract; for the south-western and north-western stairways to be completed; and for work on the north-eastern and south-eastern stairways to cease at about embankment level for the time being.

The Grissell Gold Medallist.

MR. D. FRASER REEKIE, A.R.I.B.A., who was recently awarded the R.I.B.A. Grissell Gold Medal, was also the winner of the R.I.B.A. Bossom Silver Medal in 1936 and the Gold Medal and Travelling Studentship in 1937. He is now a member of the teaching staff of the Regent Street Polytechnic School of Architecture.

R.I.B.A. General Meeting.

A GENERAL meeting will be held at the Royal Institute of British Architects on Tuesday, June 4, at 8 p.m., when Sir Charles Bressey, C.B., will read a paper on the Report which he and Sir Edwin Lutyens, K.C.I.E., R.A., prepared, entitled "Highway Development Survey, 1937 (Greater London)."

COMING EVENTS

Friday, May 3.—Institution of Municipal and County Engineers. Joint meeting of the Metropolitan and South-Eastern Districts. At 84, Eccleston-square, S.W.1. Paper: Mr. Eadmer B. Brockwell, on "Some Aspects of Structural Defence." 6 p.m.

Monday, May 6.—Architects' Benevolent Society. Annual General Meeting. 66, Portland-place, W.1. 5 p.m.

Monday, May 6.—Chartered Surveyors' Institution. Messrs. C. Gerald Eve and Geoffrey L. Vigers on "The Compensation (Defence) Act, 1939." 5 p.m.

Tuesday, May 7.—Architectural Association. Mr. W. L. Stevenson on "Architectural Finish." 8.30 p.m. Exhibition of Recent Paintings, Drawings and Sculpture by Mr. W. L. Stevenson.

Tuesday, May 7.—Building Centre. Mr. C. J. Kavanagh on "Steel," and Mr. Geoffrey Pilkington on "Glass." 6 p.m.

Tuesday, May 7.—Air Raid Protection Institute. Mr. J. A. Struthers on "The Organisation of the Casualty Services." 18, John-street, W.C.2. 8 p.m.

Tuesday, May 7.—Housing Centre. Tuesday Lunches: Dr. Willatts on "The Work of the Land Utilisat on Survey." 1 p.m.

Thursday, May 9.—Association of Architects, Surveyors and Technical Assistants. Mr. R. T. F. Skinner on "What Can Architects Do Now." St. Mary's Hall, Coventry. 7 p.m.

Architects and the War.

IN his presidential address to the Notts, Derby and Lincoln Architectural Society recently, Mr. A. E. Eberlin said that it was difficult to forecast the problems which would arise during the war and on which the post-war problems would largely depend. But whatever happened, certain types of buildings were bound to be required, and the preparation of schemes for these at any rate would not be wasted. He urged the adoption of a scheme for rationing materials, so that a limited amount of work could be proceeded with, and municipal undertakings commenced prior to the war, and now held up, completed.

A.A. Spring Visits.

THE following arrangements for A.A. Spring Visits have been made:—

Saturday, May 11 (Whit-Saturday) (changed from May 25). All-day visit to Cambridge and neighbourhood. Buildings to be seen will include recent work by Sir Giles Gilbert Scott, Messrs. Stanley Hall and Easton and Robertson, and Walter Gropius and E. Maxwell Fry (village college at Impington).

Coach leaves Bedford-square at 9.15 a.m., returning from Cambridge at 6 p.m. Return coach fare 6s. 6d.

Saturday, June 1. Hertfordshire County Hall. Architects, Messrs. James and Bywaters and Rowland Pierce. The party will leave Bedford Square by coach at 2 p.m.

Those wishing to take part in either of the above visits should apply for tickets to the Secretary, the A.A., 36, Bedford-square, W.C.

A.A.S.T.A. Provincial Meetings.

ON Thursday, May 9, at St. Mary's Hall, Coventry, at 7 p.m., Mr. R. T. F. Skinner, A.R.I.B.A., will speak on "What Can Architects Do Now?" This meeting is being held in conjunction with the exhibition, "Coventry of To-morrow," arranged by the Coventry branch of the A.A.S.T.A., to open at St. Mary's Hall on May 6.

An A.A.S.T.A. Exhibition of Evacuation Camps will be held at the College of Arts and Crafts, Arundel-street, Sheffield, 1, from May 6 to 11.

Architect's Estate.

Mr. J. F. Parker, F.R.I.B.A., of Sidcup, Kent, who died on December 9 last, left £5,090, with net personalty £4,264.

IN 1915

EXTRACTS FROM *The Builder*, APRIL 30.

"I DO not wish to be hard upon the builder. As a contractor the poor fellow was on his last legs, and the people who finance him charged 20 per cent. for the risk. Under the circumstances, and knowing that I had no hold on him, the harassed man was tempted to put in a lot of inferior workmanship. To the best of my belief he succumbed to the temptation every time it was offered. . . . It was a saying of Disraeli's that debt, in so far as it stimulates to activity, is a blessing. . . . The stimulus is not without its sting, but the effect is salutary. I know I must work and save, and so working and saving are becoming habitual. By the time compulsion is removed and I have paid for my house, probably the habit will be fixed."—From an article entitled "Buying a House."

THE DILEMMA OF THE BUILDING INDUSTRY

MR. BOSSOM'S STATEMENT TO MEMBERS OF PARLIAMENT

The following statement, prepared by Mr. Alfred C. Bossom, F.R.I.B.A., M.P., was considered by a group of Members in the House of Commons yesterday, with the object of deciding what further steps can be taken.

SINCE the outbreak of war, the treatment of the building industry has brought about serious disruption and it is now in a critically parlous condition. It is not in the national interest that this important basic industry should waste away through lack of constructive consideration. Its importance is unquestioned, for:—

(a) It normally employs about 1½ million insured workers;

(b) Its annual expenditure is in the neighbourhood of £400 millions;

(c) Its ancillary activities provide employment for over two million additional operatives;

(d) It represents about 10 per cent. of our national activity.

It has often served as a channel to stimulate industrial revivals, for, in addition to its professional side—architects, surveyors, engineers—it embraces great and small contractors, material manufacturers, and workers in stone, sand, ballast, brick, tiles, iron, steel, timber, joinery, cement, etc., some 30 odd trades in all, impregnating the entire community.

During the last fifteen years the Ministry of Labour statistics prove that whilst ordinary business has increased by about 25 per cent., the building industry has increased by approximately 50 per cent. Certain of its material manufacturers have increased from 75 per cent. to 100 per cent., and specialised utilities, such as heating, plumbing, and ventilation, have increased from 100 per cent. to 200 per cent.

The building industry is unique in that no foreign material except timber is used. Over 90 per cent. of all moneys spent on building goes directly into the pockets of British workers in wages, fees, etc.

The mistakes of 1914-18 must not be repeated. Then, not only was the industry permitted to wane, but we allowed camps, factories, housing estates and storage buildings to deteriorate and ultimately become derelict. We shall be much poorer when this war ends, so we should plan for the future now and envisage the utmost utilisation, wherever possible, of all war constructions.

By 1919 the industry had become disastrously chaotic. Indications of this recurring are not inevident. Unless constructive attention is given to it now, this major industry will suffer most seriously; and the present position will rapidly worsen as Government enterprises are completed and employers, foremen and mechanics are unavoidably thrown on to the unemployed roll. Consideration now and planning for after the war cannot possibly be undertaken too quickly.

Most Government Departments, directly or indirectly, are engaged upon a vast building programme. Their work forms the predominant, in fact almost the only, construction work being carried out. Therefore it is recommended that some of the following fundamental and practical proposals be adopted immediately:—

1. Centralisation.

An effective central co-ordinating authority or committee be set up generally to direct the entire building situation.

NOTE.—France has already substantially adopted this procedure by appointing a High Commissioner for Building and Construction with technical headquarters and regional staffs scattered throughout the country. All work is being spread equitably over as large an area as possible and any available local material is being used.

Such a central co-ordinating committee, to be efficient, must be supplied with fairly complete statistical information of each department's programmes, covering quantity, type and location of work proposed and on hand. The nation's store of, and capacity for producing, building materials must be broadly surveyed, and then assigned in the most advantageous manner. Any surplus beyond Government requirements should be made available at once for municipal or civil work.

The duties of the committee will include:—

(a) Analysis of programmes of all Government Departments;

(b) Advising on the award of contracts to reliable firms operating in the vicinity of the various sites. (In no case should work be entrusted to firms who have only recently organised building departments in the hope of securing Government contracts);

(c) Tabulation and circulation of information regarding home-produced materials and tested and approved substitutes, with the object of preventing future shortages, economy during the war effort, and knowledge of availability of stocks of materials during the post-war reconstruction period;

(d) Constant ascertainment of numbers of professoinal men and operatives available in the various branches of the industry.

In spite of the Government's existing committees, set up to encourage closer and more effective collaboration between Departments, this has not been widely achieved. Actually, competition has occurred between Departments for labour and materials resulting in exaggerated cost and delay.

2. Decentralisation.

Local decentralisation to spread available work into as many channels as possible.

NOTE.—A leading article in *The Builder*, February 2, 1940, refers to one firm of Government contractors alone whose contracts amount to £28 millions. Hundreds of other responsible firms are totally without Government work.

Obviously, no contracting firm should be overloaded with Government contracts. Such procedure cannot be justified or excused. In support of decentralisation it is desirable that:—

(a) Work on aerodromes, factories, camps, etc., should be subdivided between several contractors wherever possible;

(b) Smaller War Department A.D.G.B. camps should be contracted for in smaller units and given to smaller builders. They should not be grouped into one large contract for a large builder;

(c) Local branches of the Master Builders' Federation, and other recognised organisations, should provide lists and records of firms available for work in their areas.

The employment of labour, materials and transport existing in the proximity of the site, i.e., decentralisation, considerably reduces cost and will tend to stabilise and balance the Industry.

3. Time and Progress Plan.

All building to be carried forward under a nation-wide Master Time and Progress Plan.

NOTE.—By such nation-wide direction, local stagnation and unemployment in one place, and over-congestion with extreme costs in other areas, can to a very large extent be reduced.

To derive full advantage from this "Plan":—

(a) Contractors should be provided with complete constructional information. Incomplete drawings, specifications and vague contracts invite mistakes and vacillation, waste of labour and materials;

(b) Departmental specifications should be freed from narrow standardisation and thus avoid overloading certain factories and certain manufacturers, and the over-use of certain materials.

4. Personnel.

Unemployed architects, surveyors, engineers and contractors should be utilised for technical service in any theatre of activity with the Forces, or otherwise, in capacities for which they are both trained and experienced; and the employment of operatives in activities in which they are not now engaged.

NOTE. — Government Departments should, for the duration, employ technical men also as supervisors, so that work may be executed expeditiously, systematically and by normal processes rather than by unusual and experimental methods, as has been attempted during the present emergency.

In furtherance of this:—

(a) Before any Government work be undertaken the site proposed should be examined by experts in regard to its suitability, subsoil, drainage, electrical facilities, water supply, approaches, etc.; and for availability of local materials;

(b) Housing of the Forces, both at home and abroad, necessitates much billeting and requisitioning. All such property should be technically inspected on entry and exit of each unit to assess damage. Either enrolled or civilian professional men should be utilised for this work;

(c) All A.R.P. demolition squads, if paid, should be composed exclusively of building trade operatives;

(d) Before Government contracts all terminate a review of the position of all

building trade operatives on the Reserved List should be undertaken;

(e) Immediate consideration should be given to the construction of a few major strategic roads;

(f) Essential repairs and important maintenance work should be permitted, and rural cottages not allowed to fall into disrepair;

(g) Investigation should be made as to the possibility of building operatives becoming shipbuilders or doing other technical work for the duration, where there is an insufficiency of mechanics.

The widest use should be made of the Department of Scientific and Industrial Research, the Research Committee of the Royal Institute of British Architects, the Building Centre and other building organisations to obtain information regarding the possibilities of building-material substitutes.

5. Use of Existing Workshops and of Waste Materials.

There are many large builders' workshops and factories already equipped with all kinds of machinery which the Ministry of Supply should utilise wherever possible and thus avoid the erection of new factories and purchase of new machinery.

Condemned buildings should be demolished now, and any timber or other materials, in good condition, be reused in buildings whose construction is now held up due to inavailability of such materials.

6. Finance.

The Government should give immediate consideration to removing the restriction on mortgage, up to £10,000, for civil building, provided that the material is available and the money would not otherwise go into the war effort as investments, etc., and that sufficient mechanics above and below military age are available.

A careful investigation should be made to ascertain whether a comprehensive war risk insurance scheme is possible.

It is essential to keep a nucleus of the Building Industry in being for emergencies and the reconstruction period after the war. As municipal authorities have in the neighbourhood of £1,000 millions worth of projects held up, it should be arranged that these be undertaken immediately the war ends when the Services are demobilised and the manufacture of munitions abruptly stops.

7. Post-War Preparation.

The following should be considered now so that they may be undertaken immediately the war ends:—

(a) Local authorities should be permitted to prepare drawings and specifications now for prospective undertakings. Men outside military age could be employed to prepare these;

(b) Investigation for the provision of satisfactory water supply, drainage, electrical facilities, refuse disposal, etc., in rural areas;

(c) A review should be made of the possibility of constructing required arterial roads to provide widespread employment.

The adoption of the foregoing proposals would be of national benefit as they would stimulate employment, correspondingly reduce unemployment allowances, maintain the morale of this great Industry and place highly skilled men in positions where their services are eminently desirable.

PROBLEMS OF WAR-TIME BUILDING

A SERIES of lectures, the purpose of which is to give the latest information available on materials and their adaptation to meet war-time technique in building, is now being given at the Building Centre, London. The first of these, by MR. R. FITZMAURICE, B.Sc., A.M.I.C.E., was delivered on Tuesday, April 23. MR. HOWARD M. ROBERTSON, V-P.R.I.B.A., occupied the chair.

CONSTRUCTION.

MR. FITZMAURICE said he was a member of the staff of the Building Research Station, which was now being called upon to advise people how they could make the best use of such materials as were available. The present difficulty in building arose from a serious shortage of timber and the need to husband the nation's resources in steel as far as possible. Timber and steel were used to sustain tensile stresses; in an ordinary building practically every element in it that had to take tensile force depended upon the use of timber and steel. The prospect of finding substitutes immediately which would suffice for our needs in the carcase of the building was not promising. There was no immediate substitute, and he could not hold out any hope of finding one; the problem was to economise as far as possible in the use of these materials.

The Building Research Station had been asked by the Works and Building Priority Sub-Committee—which was the Government body responsible for the war-time building programme—to give such advice as it was able to give in the use of these essential materials, and had at the moment in the press a bulletin dealing with structural steel in the erection of factories. Practice varied considerably, and in peace time sound argument might be advanced for either heavy or light construction; but in war time the paramount need was for economy of material.

As to timber, in the modern factory or office building, as finished, there would be found but little timber, and such timber as was there was probably used for ornamental purposes. It might be used for floors, but there would be no carcassing timber whatever. Nevertheless, the building had required a considerable amount of timber in its construction. A beam of reinforced concrete would have to be cased, and the timber used would be of little use afterwards. There were admirable proprietary forms of floor slabs, but these left the problem of trimmings, and odds and ends for corners and so on, requiring timber. No system of formwork was sufficiently universal in character to deal with this. The only way was for the architect to start with the conception of method of construction and formwork in mind. It was impossible to avoid waste if the architect did not co-operate with the contractor to minimise these difficulties. Certain trimmings favoured by reinforced concrete people, such as chamfers and splays, should be abandoned.

Turning to steel, the Office of Works had been putting up a good many single-storey buildings, and had found it possible to make certain modifications which had simplified structure and saved a lot of material. For this readjustment co-operation was necessary between architect, engineer and contractor. The building owner also might have to be convinced; often he had rooted ideas as to his requirements. One important matter was that, in the construction of factories, people liked a big span unbroken by columns. But this was expensive in material. There was no economy in having spans of less than 30 ft. each, but, beginning with a span of this width, it was found that the quantity of material required to cover an acre of ground increased as the span increased. This fact must be pointed out to the building owner who wished for large spans.

Another complication was that change in the geographical distribution of building might bring difficulties with labour—*e.g.*, it might be found that in a particular district there was a shortage of bricklayers. In such a district some method of construction must be adopted economising in this sort of work.

When changing methods of construction to meet war conditions, the problem must be tackled at the planning end, and that was where the architect came in. Architect, engineer and contractor must work together very much more closely, and he almost felt they ought to be in one office to solve the problem adequately.

From the Building Centre Exhibition.

MUNICIPAL FLATS, OSLO. (Photograph by F. R. Yerbury.)

WAR-TIME BUILDINGS

CONSTRUCTION IN THE LIGHT OF PEACE-TIME USES

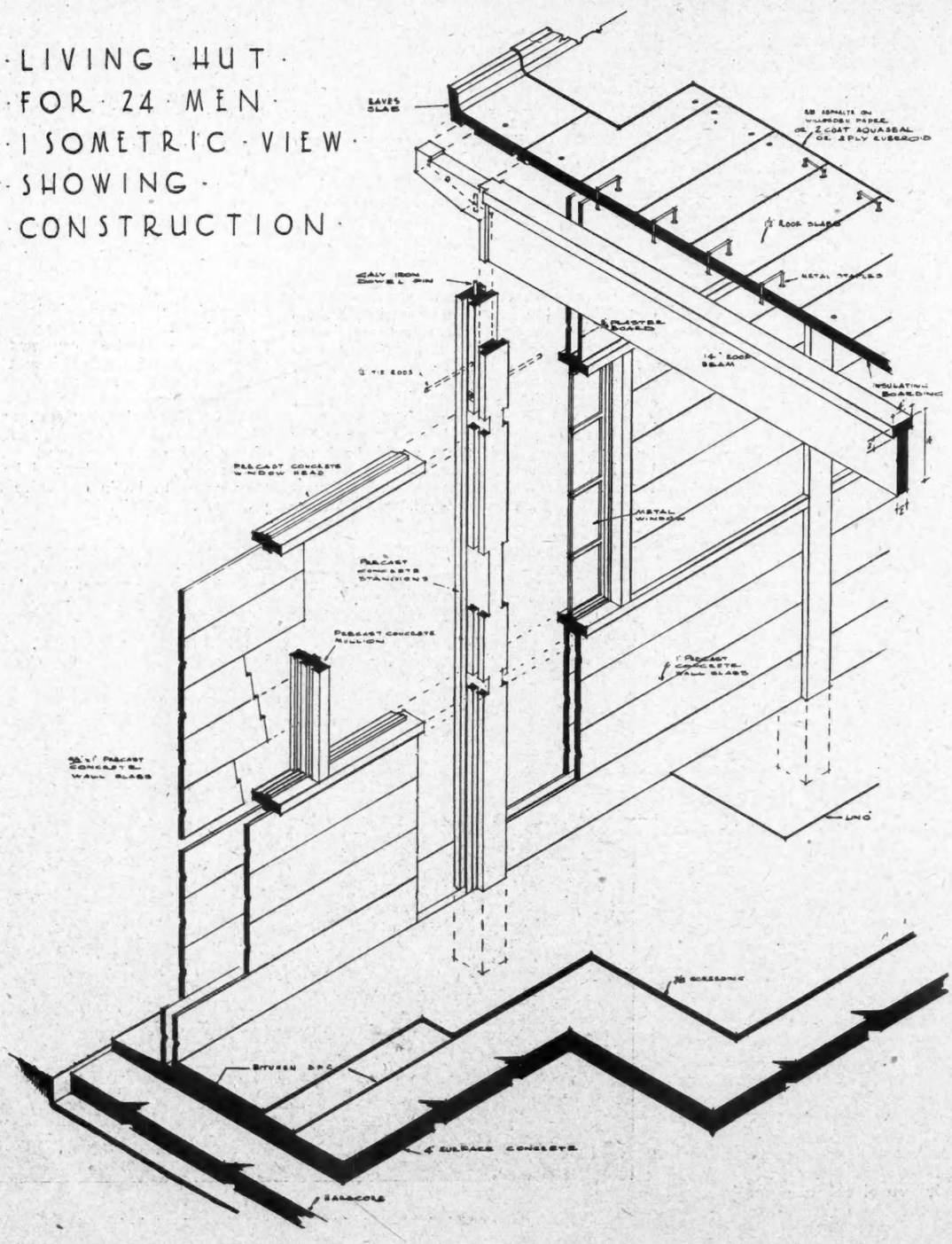
THE securing of a type of design for Service buildings which should have a low initial cost coupled with high efficiency; should be independent (or nearly so) of timber and steel; and should be capable of being dismantled at the end of hostilities and re-erected elsewhere for peace-time uses, is a problem which has been in the minds of many architects and technicians.

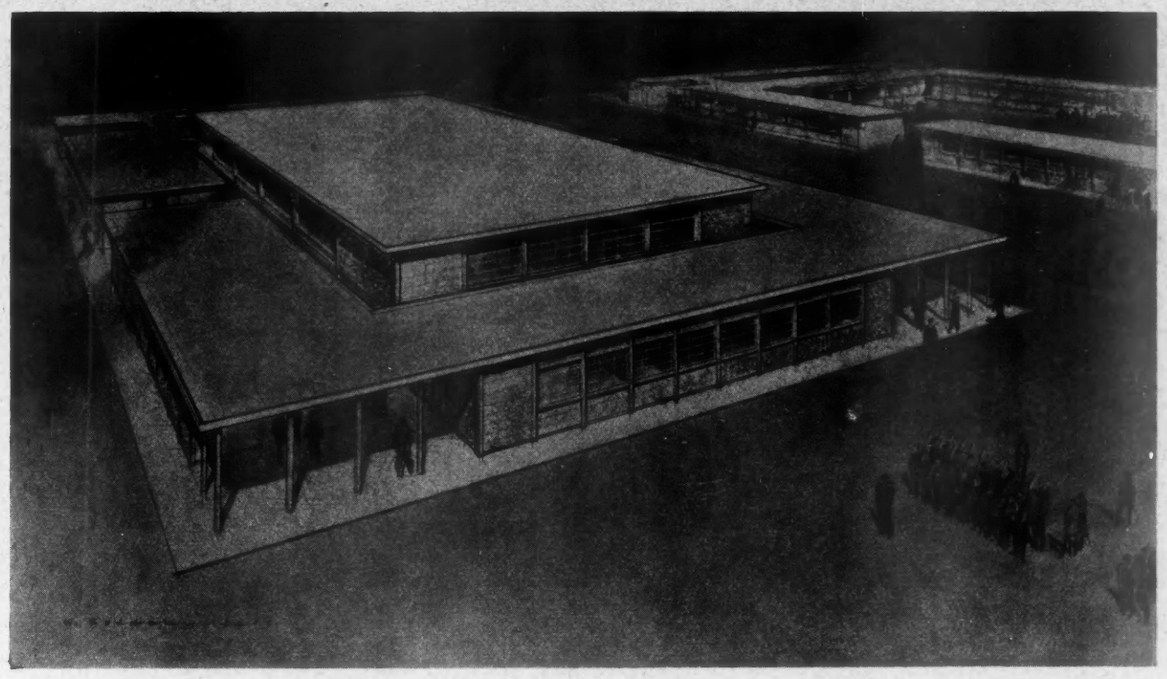
Of especial interest, therefore, is the development by Mr. Stanley Hamp, F.R.I.B.A., of a new form of unit design which makes it possible to use a degree of standardisation in camp, hospital and house building far in advance of present practice.

Mr. Hamp's scheme has been approved by the War Office, and, working in conjunction with Messrs. L. G. Mouchel and Partners, consulting engineers, he has prepared a number of drawings showing how the system can be applied to various types of buildings. Of particular value are his plans for an improved layout for a military camp of which the units can be taken down after the war and utilised for house building, hospitals, schools, etc. Mr. Hamp attended an exhibition of his designs at the offices of the Cement and Concrete Association on Wednesday, at which Lord Wolmer presided, and at which Mr. Alfred Bossom, M.P., was also present. Mr. Hamp explained his scheme in the following terms:—

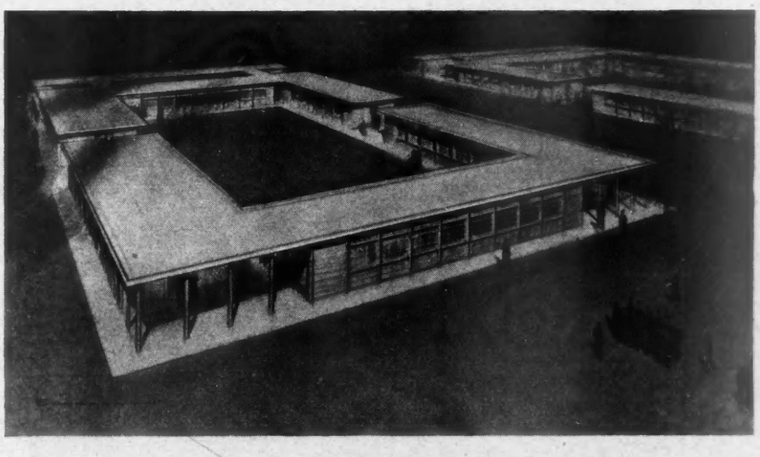
WAR-TIME BUILDINGS AND THEIR REQUIREMENTS.

The problems to be solved were: These buildings must be constructed at the lowest possible cost; they must be con-





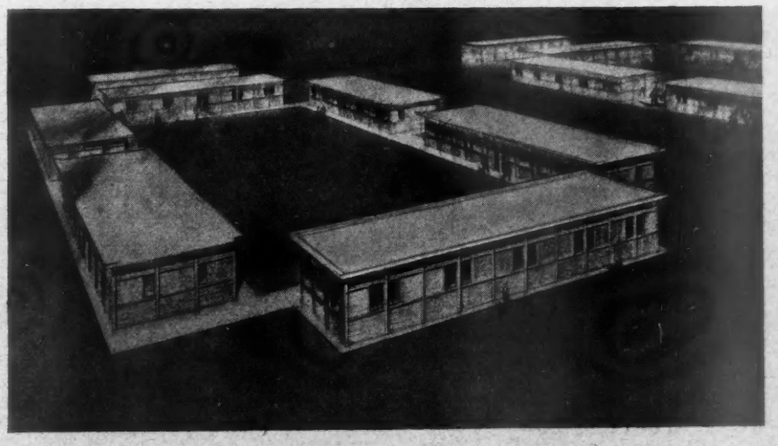
HUTMENTS, SHOWING HOW CENTRAL SPACE MAY BE ROOFED IN FOR ALTERNATIVE PURPOSES.



MR. HAMP'S ORIGINAL DESIGN FOR GROUP OF HUTMENTS.

MR. STANLEY HAMP, F.R.I.B.A., ARCHITECT.

DESIGNS FOR HUTMENTS HAVING POST-WAR ALTERNATIVE USES.



MR. HAMP'S DESIGN AS MODIFIED BY THE WAR OFFICE.

structed with materials obtainable in this country; they must be capable of being erected quickly, and should be fire-resisting and hygienically suitable for the troops in all weathers; they should be of prefabricated material, easily transported to site, standardised in form consisting of a unit construction the erection of which can be easily carried out by the available labour; they should be designed to be suitable for post-war purposes, and should have a salvage value by being designed for re-use after the war for peace-time purposes; lastly, the buildings should be composed of materials which can give employment in their manufacture to a large number of people at present unemployed.

"The underlying purpose of the scheme shown on the various drawings (states Mr. Hamp) is to reduce cost in construction and time in erection of the war-time buildings. If that can be effected we claim that we shall have helped to solve a national problem. The present building programme for the country is of such magnitude that a sum, probably £200,000,000, will be expended before the various contracts will be completed. Any effort by means of which this expenditure can be reduced must receive the closest consideration.

"In the early stages of the war most of the buildings were being constructed in timber. This is no longer possible. All wood, and as far as possible steel, must be eliminated or reduced to a minimum as shipping is no longer available. The shipping problem is so acute that only materials obtained at home can be permitted. This means that we are now compelled to build in brick, concrete or other pre-cast materials. Speed in erection is essential. Realising these conditions, and after taking into account all the materials now available, it will be found that some form of pre-cast concrete will be the solution.

"Numerous methods of design have been suggested, but so far without complete success. We claim, however, that in this pre-cast concrete unit we have evolved will be found one solution which fulfils all essential requirements. If adopted it would result in a large saving in initial cost and greater expedition in erection, and, further, would be of real post-war value for peace-time buildings.

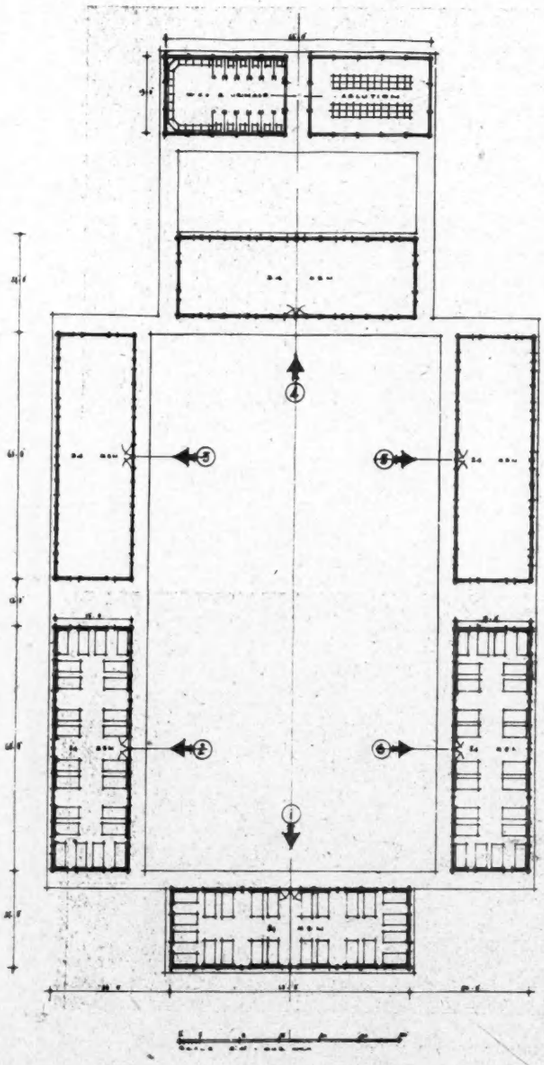
"This after-war use we have considered to be of paramount importance.

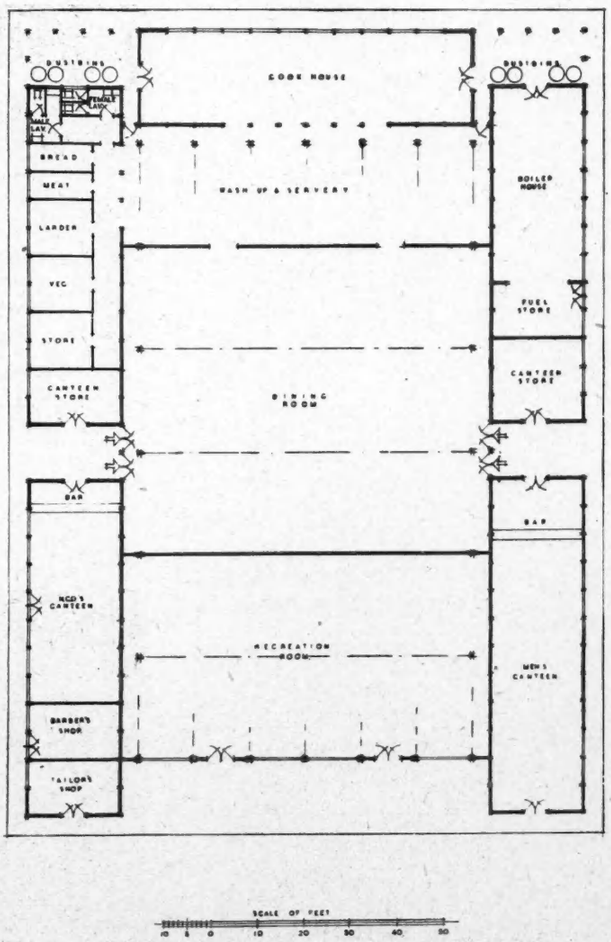
"We claim that these buildings are so designed that they will not only be more pleasing in appearance, but by their method of construction they can be easily taken down for re-use on another site to fulfil the need for social services such as hospitals, clinics, schools, housing, etc., at a time when such buildings will be in great demand. It will be remembered how after the Great War the cost of building materials and labour rose to such a height that the workingman's house, instead of costing £300, cost £800-£900. This should not be allowed to happen again, and if the authorities would think in advance it need not happen.

"We have proved by the actual estimates from responsible contractors that the actual cost at the present time would be at least 12½ to 15 per cent. lower than the brick hut that is being erected today, and further, that the saving in time would be considerable. Added to these advantages will be the salvage value in that practically all the material can be taken down and re-erected."

Construction Details.

The structure consists of pre-cast concrete units, portions of which are pre-stressed, which makes it possible to reduce to a minimum the weight of the steel reinforcement, and at the same time lessen the actual amount of concrete used. The external walls consist of concrete stanchions placed at 6-ft. centres which receive in specially designed grooves two thicknesses of 1-in. concrete slabs with 1½-in. air space between. These slabs are secured by a specially designed movable wedge which presses both the outer and the inner slab against bitumen tape attached vertically into the

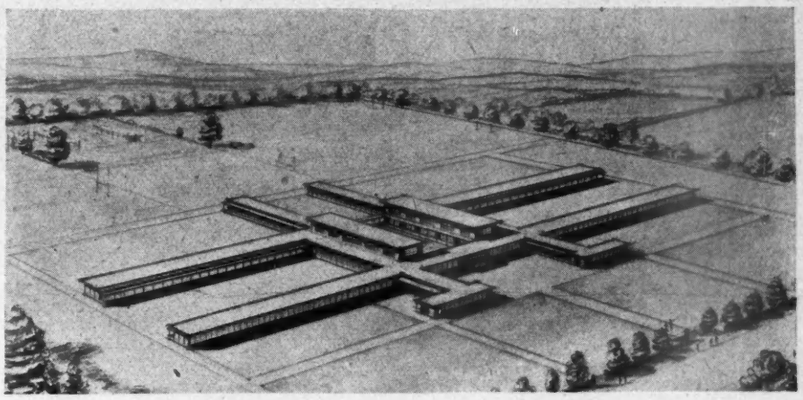




Above: PLAN OF DINING-ROOM, COOKHOUSE AND CANTEENS FOR 600 MEN.

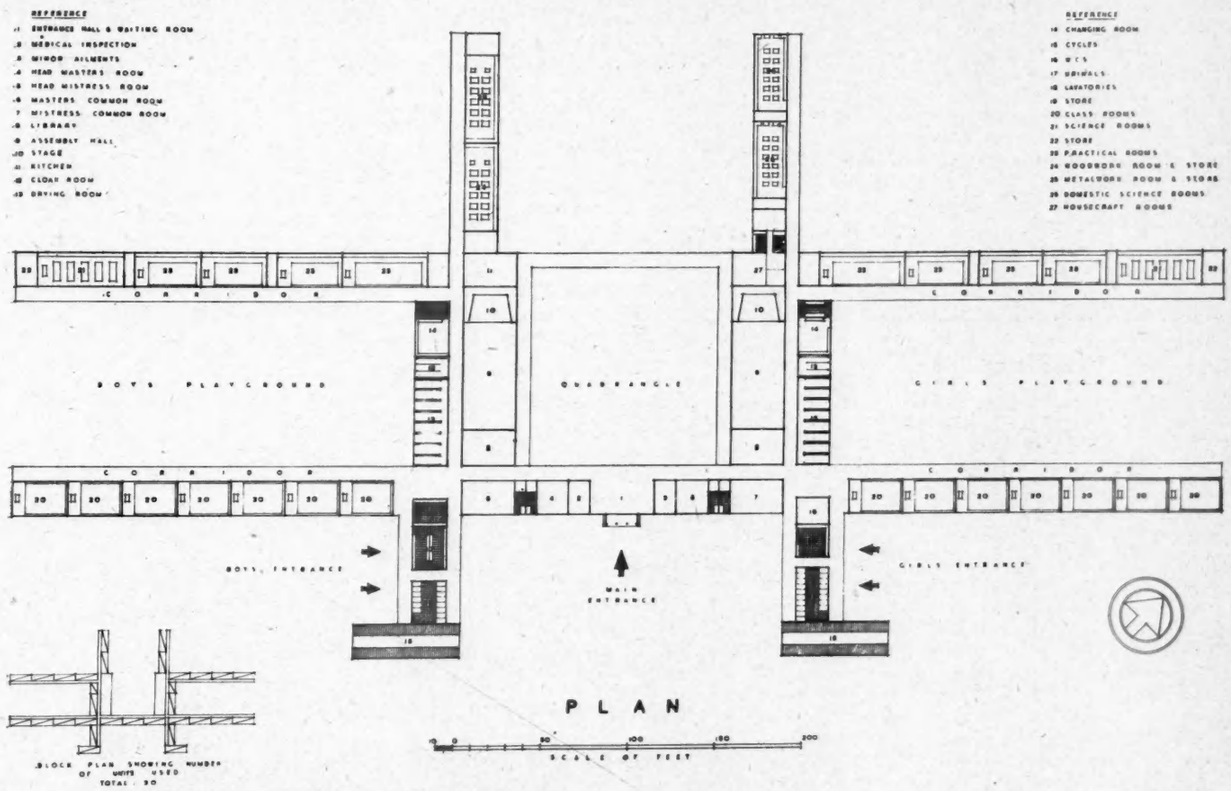
Left: PLAN FOR MILITARY CAMP.

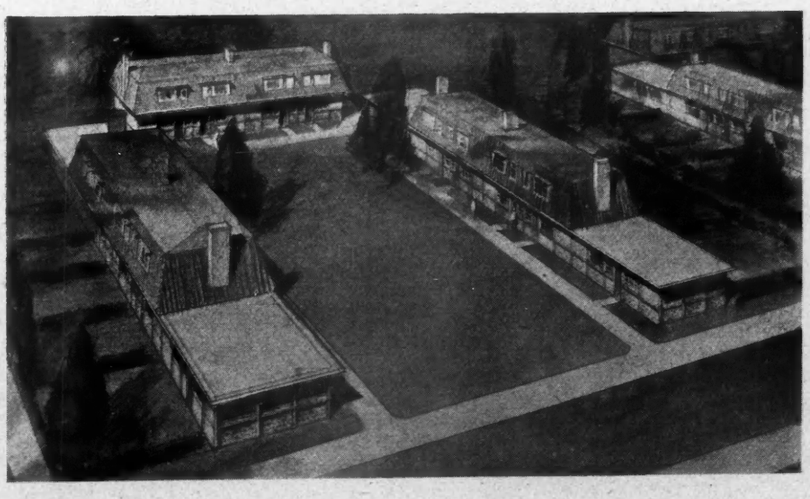
DESIGNS FOR BUILDINGS UTILISING STRUCTURAL UNITS EMPLOYED FOR MILITARY CAMPS



Right : DESIGN FOR SENIOR SCHOOL FOR 480.

Below : PLAN OF SCHOOL.





Left : DESIGNS FOR HOUSES, SHOWING HOW UPPER FLOOR CAN BE OBTAINED BY MANSARDING.

MR. STANLEY HAMP, F. R. I. B. A. ARCHITECT.

grooves of the stanchion and forms an absolutely tight joint. It has been proved by experiment that even under pressure no water can pass through, and so is formed an impervious joint against all weather conditions.

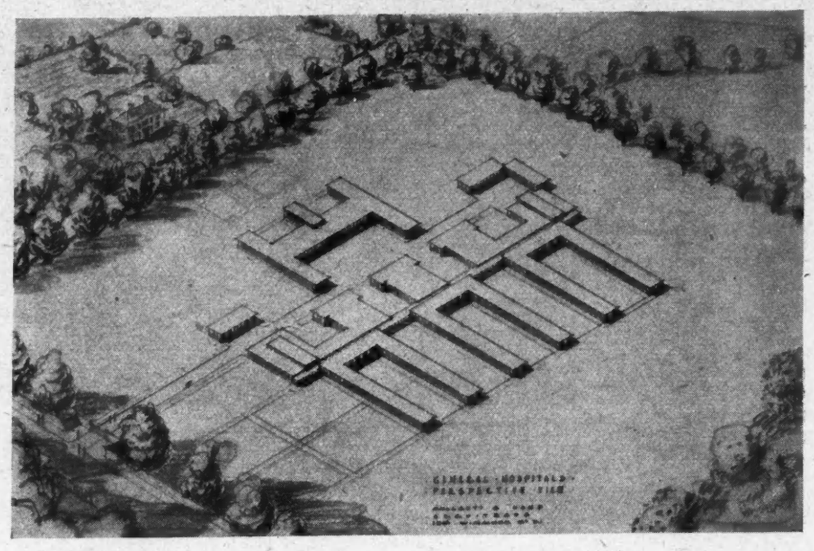
The roof of the building is flat with projecting eaves composed of pre-cast concrete slabs laid on ferro-concrete beams spanning from stanchion to stanchion. The upper surface is covered with ⅜-in. asphalt laid on Willesden paper. To the underside of the slab is attached insulating material to prevent condensation.

The windows are metal fitted into grooves in stanchions in such a way as to eliminate all beadings or linings usually found necessary.

All these materials throughout the structure are designed to fit together without any cement joint, making it possible to take every portion easily apart. The design and construction have been officially approved and passed by the War Office.

All arrangements have been made for manufacture by well-known and responsible concrete firms in the country, and delivery is guaranteed to supply at the present time 30 huts per week, an output which can be increased to supply the greater demand as may be required.

The contractors estimate with the surface concrete in position and with the pre-cast material on the site that the sleeping hut, 60 ft. by 19 ft. in area, could be erected complete in four to five days—in other words, given the number of men, the whole of these huts, numbering approximately 70 in each camp, could be erected in a few weeks.

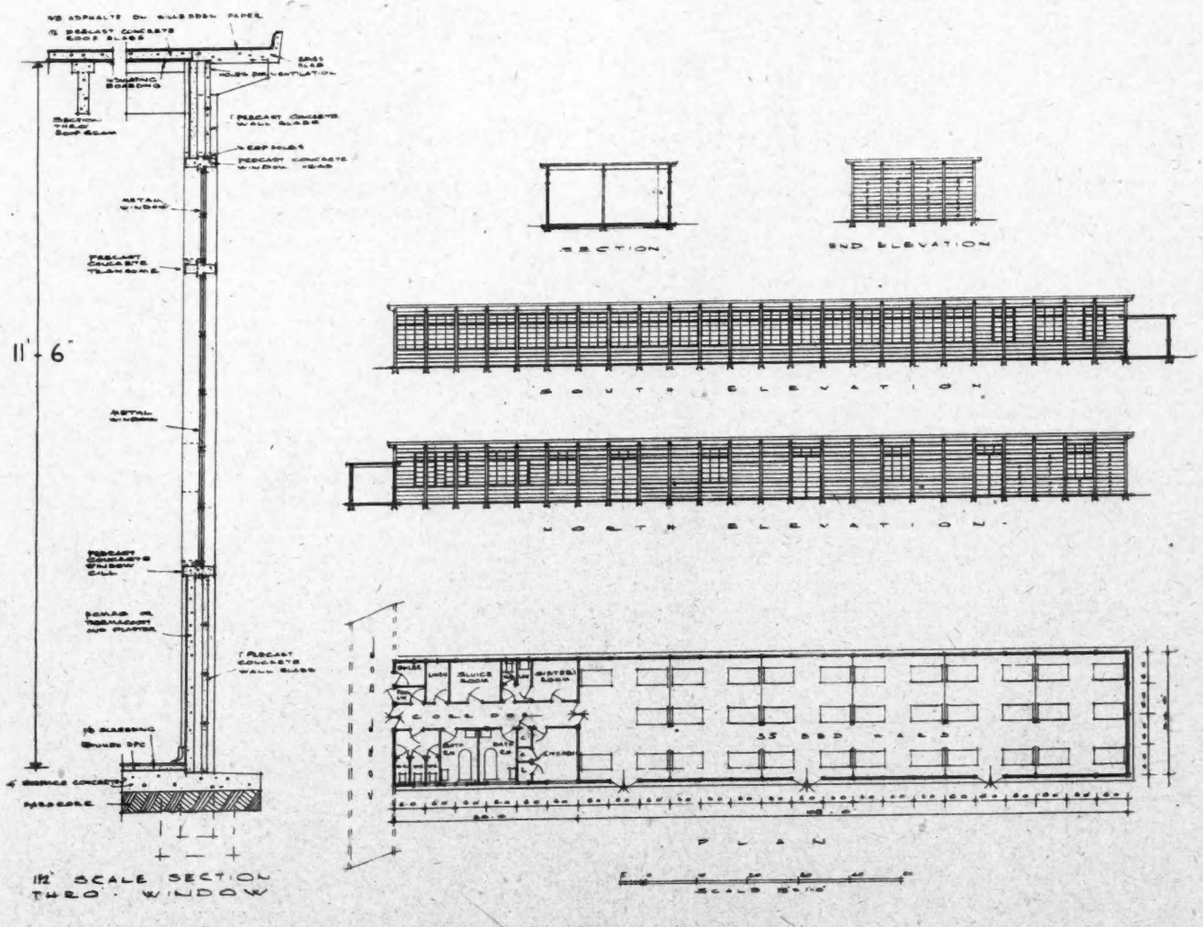


DESIGN FOR AN EMERGENCY HOSPITAL UTILISING STRUCTURAL UNITS FROM MILITARY CAMPS.

Post-War Value.

As an example, a military camp for 1,200 men would require approximately 70 huts. The following illustrates how these living huts can be absorbed in their present position or rebuilt with the necessary equipment on another site for post-war purposes:—

Hospital	would re-use	52	huts
Convalescent home	,, ,,	30	,,
Clinic	,, ,,	8	,,
School—480 pupils	,, ,,	30	,,
School holiday camp 350 children ...	,, ,,	33	,,
Seaside holiday camp	,, ,,	50	,,
Factory building ...	,, ,,	10	,,
Housing for 450 people	,, ,,	70	,,



PLAN, ELEVATIONS, ETC., OF EMERGENCY HOSPITAL WARD.

ARCHITECTURAL EDUCATION

BY H. S. GOODHART-RENDEL, P.-P.R.I.B.A.

We give below a first instalment of a paper on "Architectural Education" which was read recently before the Architectural Society, Liverpool University, by Mr. H. S. Goodhart-Rendel, P.-P.R.I.B.A., It will be concluded next week.

I HAVE come here at your request to give you my views about architectural education. I do not pretend that I have not spoken upon this subject in the past—indeed, I once made a speech about it that caused quite a lot of trouble. Yet I feel that I lack two qualities an educational theorist ought to have if he is to be convincing. I have no precise knowledge of many systems that have lately been tried, and I have no fundamental belief that the education of other people is a process bound to be beneficent.

You observe that I say the education of other people. Self-education I do believe in. Or, rather, if I may use the word education in its original sense of "leading out," I believe in leading out, in drawing out, of other people their innate powers of collecting experience and acquiring skill. What I particularly mistrust is any effort to teach anybody what he or she has no active desire to know. And I am afraid this is what education has largely come to mean.

I admit that social convenience seems to require that certain elementary things should be taught to everybody. It is inconvenient to have too many entirely uneducated people about. I do not recommend, for example, that conscientious objectors should be exempted from the obligation of learning to read and write. Now, if we thus have to admit that forcible education in some things is justified by convenience, by a consideration of the inconvenience uneducated people can cause to their fellow-citizens; we have established a ground for thinking that the specialised education of architects is necessary to the public good.

Architects take the responsibility of spending their employers' money upon work the quality of which the employers themselves can seldom be competent to judge. The recent struggle for our Registration Act will have familiarised you with the general arguments that support the compulsory education of professional men. These arguments may have been overstressed to meet the occasion, but I believe them to be valid.

I imagine that most architects become architects of their own free will, and there is, accordingly, no reason for expecting that their professional training will find them resistant. No reasonable being hopes to escape drudgery in acquiring skill, and if the skill is desired the drudgery will be willingly accepted. If the skill is very much desired the drudgery will not be drudgery at all. The really fervent lover of Beauty will gaily cut his way to her through the thickest of thorn hedges.

But although architecture may be Beauty (very fast asleep at the moment, I am afraid), no such pleasing personification can be made of mere professional aptitude. Professional aptitude you all must acquire if you are to be allowed to take fees for performing professional services. I am afraid, however, that in acquiring it you must cut through thorn hedges without alleviating glimpses through the branches of anything attractive on the other side. A good deal of a practising architect's work must be dull to him, though fortunately we are so variously constituted that different things will be the dull ones for different people. I call this "fortunate" because it seems to me that work which nobody enjoys is apt to be badly done by everybody; whereas if somebody enjoys doing it that somebody will set a standard everybody will try to reach. This, however, is a digression. The point I am trying to make now is that the education of an architect is twofold. There is the instruction directed towards professional competence and the mind-training directed towards excellence in art. The first can be imposed by authority, the second cannot.

Professional Competence and Artistic Excellence.

If you want to think clearly about architectural education you must never lose sight of this distinction. You will be tempted to do so very often, seeing that the educational authorities who control our curricula have very often lost sight of it themselves. I think, personally, that examinations for admission into professional bodies ought to leave the artistic abilities of candidates out of account. The test of such abilities by examination might be practicable if there were any standards in modern architecture that were universally accepted; but such there are not, for the moment at any rate. Examinations held in schools are another story. Their object is to test not the student's ability by any absolute standard but his receptiveness of the teaching he has had in the school. To introduce external examiners into schools of any kind seems to me to disregard the interests of the students for the purpose of testing the teaching staff. It may discover bad teachers, but it discovers almost nothing about the taught. To discover anything about the taught, examinations must be held by those who have taught them.

External examinations there must be, but the time for them is after school training is complete. You have to pass a test before you are licensed to drive a motor vehicle, and you similarly have to pass a test before you can be registered as fit to conduct the architectural affairs of other people. To pass this test you must learn about all the things for which usage makes the architect responsible. You cannot learn many of them thoroughly—life itself would be too short for that—but you can and must learn enough to be able to prevent specialists working under your control rendering any bad service.

You have probably gathered by this time that I find a great deal to criticise in the aims, the methods, and the results of general education in this country. Compulsory education here seems to me like a sort of vaccination that seldom takes; it is forcibly injected into people, but fails to secure for them any immunity from the mental diseases of ignorance. This may be a jaundiced view, since I may be blaming the system for faults whose cause is elsewhere. Our national good qualities are not those that breed intellectual curiosity, and it must be difficult to make people learn when their most enthusiastic response is that they don't much mind if they do. Anyhow, although we can be grateful that the German accusation against us is well founded and that we are entirely deficient in what the average German understands by *kultur*, we have not as much real culture as we ought to have to make good the deficiency. Where the fault lies in our system that system should be amended, where in ourselves we must take ourselves to task.

It is safe to presume that a man training for a profession of his choice has a more active desire to be trained than the average schoolboy has to become a man of culture. Especially must this be so when the profession chosen is architecture, since only love of the art is likely to attract anybody into an occupation so unremunerative. Given that you are as anxious to learn as I think you must be, I believe you will generally be wise if you endeavour to make good by your own application any faults there may be in the professional side of your curriculum, without spending undue time in debate as to how those faults could be cured. The instruction usually given in technical drawing, in applied mathematics, in sanitation, in law, and in history, has been proved by experience to lead quickly and surely to its goal, which is that of getting you qualified by examination. You must have that qualification, and the schools provide you with good ways of getting it. Whether you really deserve that qualification or not must depend upon yourselves.

I mean by this that I think the average school curriculum in professional subjects is crowded to the limit of practicability, and that, as in a modern flat, if you bring anything more into it you will have to make room by throwing something equally necessary down the dust-shoot. The method of instruction in the subjects it includes varies in different schools; in some it is better, in some worse. Lecturing, although canonised by University precedent, seems to me a method to be avoided as far as it can be. It is obviously impossible for the thoughts of all the listeners to move at the same pace as those of the lecturer, and the art of taking useful notes is one very difficult to acquire. Oral teaching with numerous pauses for questions seems to me far better. Mathematics and drawing are paper studies, generally well enough conducted.

You may perhaps have noticed that I have not yet specifically mentioned the teaching of building construction and the use of materials. You will have to pass examinations in these subjects before you can be qualified as architects, so that they are obviously part of your strictly professional training. But they are so much more than this that I have hesi-

tated to class them with such subjects as law and technical drawing, and I hesitate now before saying that they are usually well taught. I fact, I cannot say it.

Art Related to Building Construction.

When I shall come to the most important part of these remarks, when I speak of the teaching of architecture as an art, I shall lay stress upon the intimate relation between that art and building construction. You cannot learn architecture properly unless you learn building construction concurrently. But you can learn building construction without learning architecture; I don't think you ought to, but you can. However you learn it, you have naturally got to be examined in it before you can be let loose to pile heavy materials up above other people's heads.

The ordinary way of teaching building construction in architectural schools is by means of lectures, oral instruction, and the working out of problems on the drawing board. Short visits are paid to actual buildings in progress, and I believe that in some places cinema films are shown that illustrate the workmen's use of their tools. In this way students become able to pass examinations, but they seldom attain any imaginative grasp of the subject. They learn how to draw and to specify the forms of construction in common use, but they do not learn very well how to adapt these and to add to them when circumstances make ordinary ways insufficient.

In the middle of the last century the methods of building construction had become so conventional and so inconsistent with the architectural tendencies of the day that the young men in the Arts and Crafts movement embraced a theory that both architecture and building would be reformed if every architect were to learn to build with his own hands. I knew one who did so; I believe he did not lay bricks at all badly, but he never had time to learn how to plan. I would not mention this particular silliness if it were not that something of the same kind has been more plausibly propounded not very long ago on the Continent, and some who do not think very deeply are still attracted to the theory by hazy notions about the undeniable dignity of labour. Now a lifetime is not too long for becoming a good plumber or a good carpenter, and if you are going to learn either of those crafts as it should be learnt, you will not have time to do anything else. Amateur plumbers and amateur carpenters are generally not only public nuisances, but have seldom reached the stage at which they know any more about plumbing or carpentring than could be intelligently observed from outside. Initiation into the inner mysteries of a craft comes late in the life even of the craftsman. I can imagine no greater waste of an architectural student's very precious time than fooling about with tools he is never likely to use really well.

Craft Mysteries and the Architect.

I should, however, like you all to have the opportunity of handling every builder's tool yourselves in order that your own failure to do any good with it might open your eyes to the operative skill it will later be your privilege to direct. I should like you also to know about the working of all machinery that shapes or produces building materials. I should like you to get your impressions of these things directly and not through books, and I imagine that every teacher in an architectural school must agree with me. I should like you to get this experience in schooltime, but I should hate you to get it in school. Even in the best technical school there is a pervading air of unreality in all the work done—it is not done to anybody's order, and answers no need except that of instruction. Modern conditions may make the technical school an unavoidable evil for the workman, who moreover can, if he have the will, lay solid foundations there for the real education his first jobs will give him. What I think the budding architect needs is a building education that shall be real from the start. His best instructor will be a clerk of the works, and he is lucky if he can find a friendly one to whom he can attach himself during the holidays. It would obviously be better still if this instruction were no mere holiday task, but could be arranged by the schools as part of their regular course. In my own office I try, when opportunity offers, to send my best draughtsmen on to jobs in a supervising capacity, but I often think that from their point of view the experience ought to have been arranged for them earlier.

Schools versus Studios.

I have now come to the end of what I call the compulsory part of your education, of what you have to prove that you have learnt before you may start working for your living as architects. I can now begin to talk about architecture. Neither architecture nor painting nor music nor any other of the fine arts can be taught, as surveying or engineering can be taught; on the contrary they can be learnt only by the process of self-education. Such self-education, however, is very difficult to carry on in solitude, hence the necessity of art schools, which are constantly found to fail in so far as they are really schools and to succeed in so far as they are really studios. Let me explain what I mean by this most important distinction.

In a school you learn lessons, in a studio you make experiments. In a school information is poured into you in fixed doses, in a studio you get information by asking for it when you want it. In a school the pupils learn exclusively from the professor, in a studio they probably learn no more from the professors than they learn from each other.

The studio is more difficult to conduct than the school, seeing that its essence is freedom and freedom is easily abused. A nasty epidemic of politics, or a collective love affair on the part of the students with some architectural hero of the moment may knock its organisation endways; and it has few disciplinary resources when confronted with idleness or rebellion. Yet I am convinced in spite of all this that the idea of the studio must be the model for every successful art school. Yon can only learn design by designing, and the only instruction in the matter that is likely to benefit you is that which comes in the form of criticism of your efforts after you have made them. What is called "designing in good taste" can no doubt be learned by rule—anybody painstaking enough can learn to turn out the sort of public-house or telephone exchange that passes muster to-day. But "designing in good taste" is not architecture—indeed is something quite different from architecture. For some occasions it is sufficient, but few would make it the height of their ambition.

Before I start telling you the way in which I think you ought to educate yourselves in architecture, I had better make as clear as I can the meaning with which I use that word. To put this in the shortest possible way I mean the *fine art* of architecture: but the term "fine art" is so vaguely used to-day that the statement needs amplification. What is a "fine art"? If we say it is the natural antithesis of a "useful art" we imply that it is a useless art, and that sounds like disparagement. But then what is "usefulness"? These verbal definitions are worth thinking about, hair-splitting though they may seem. Let us take an extreme example of a useful art, the art of brewing, and compare with it an extreme example of a fine art, the art of ballet. It needs art to brew good beer and it needs art to dance *Coppelia*, but beer when it is well brewed satisfies merely the physical side of man where *Coppelia* when it is well danced satisfies his imagination and his fancy. Satisfaction of the imagination and the fancy is the particular aim of a fine art, and from the material point of view this aim is useless. If we therefore say that a fine art is materially useless we do not necessarily disparage it unless we are to belittle all lyric poetry, all decorative painting, all unmilitary music, all fantastic drama, all ornamental sculpture.

Fine arts can, of course satisfy material needs; poetry and drama can relieve mental tension—painting and sculpture can do the same—and music, one is assured, can promote good digestion. All of them can be employed to serve non-artistic ends, to inspire patriotism, to make virtue seem desirable and vice hideous. They are not the best tools for these purposes, but will do at a pinch. Their proper function, however, is to give to mankind a particular kind of happiness that no other means can procure. If they can do other things by the way it may be all the better; there is no logical objection to what the Victorians used to know and scorn as "art with a purpose," so long as the purpose does not damage or constrain the art.

(To be concluded.)

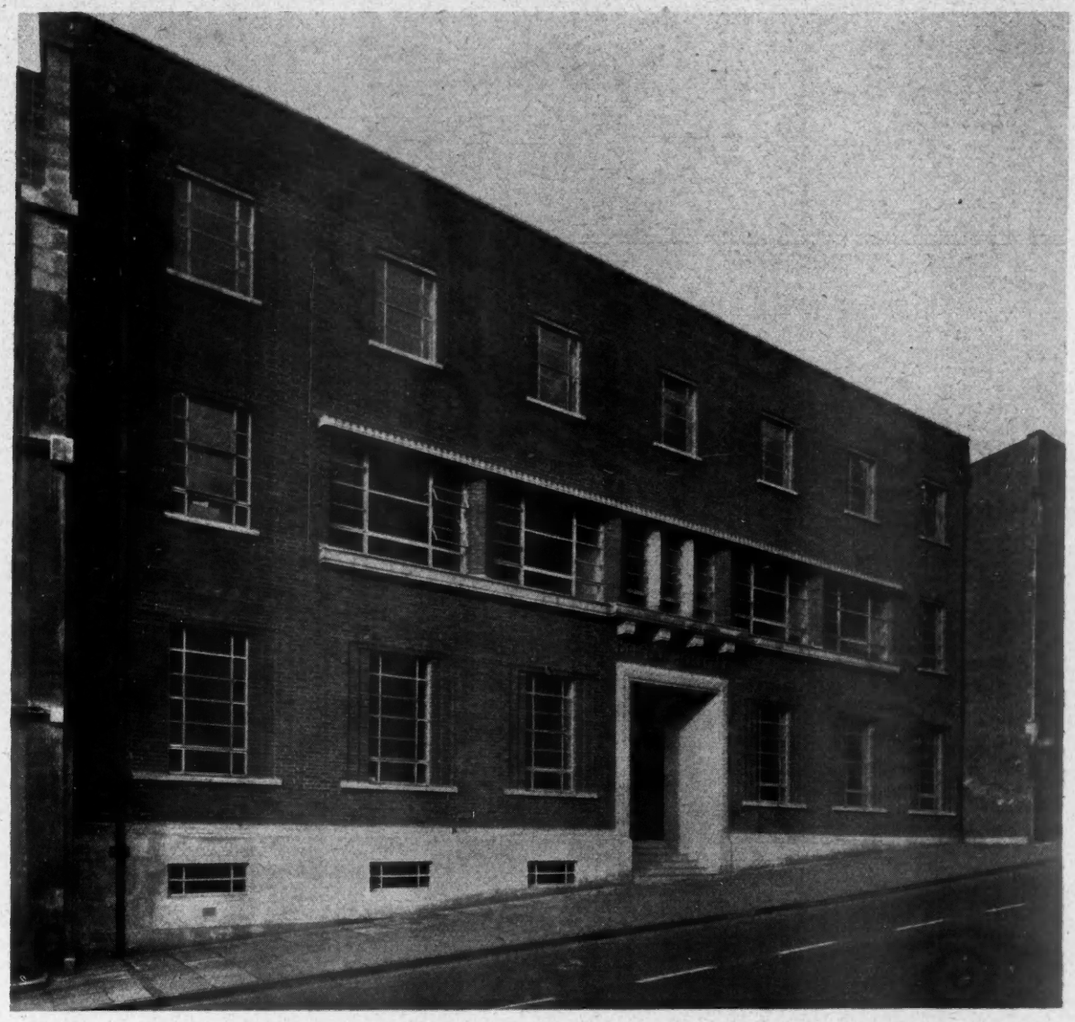
SOCIETIES & INSTITUTIONS

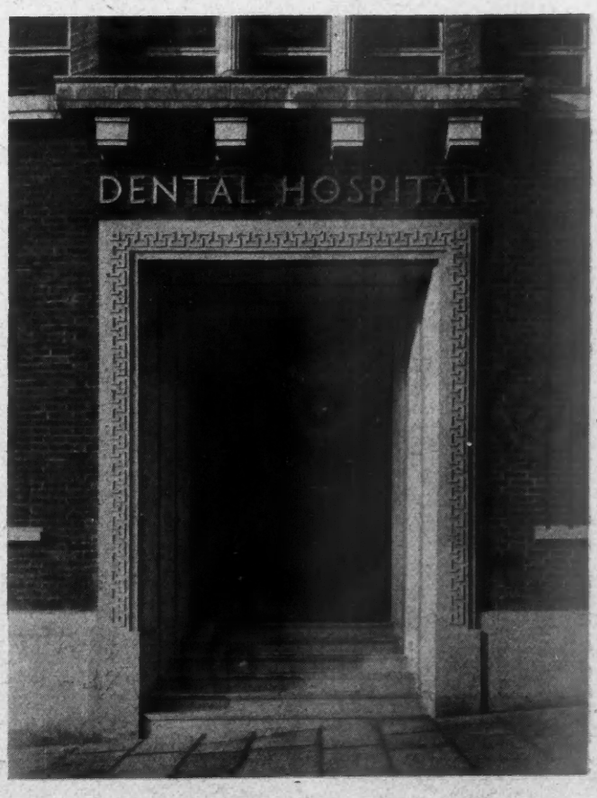
WEST YORKSHIRE SOCIETY OF ARCHITECTS.

The New President.

Mr. J. E. Stocks, F.R.I.B.A., was elected President of the West Yorkshire Society of Architects on Thursday evening, March 25. The West Yorkshire Society is the largest northern society allied to the R.I.B.A. Mr. Stocks, who is 55 years of age, was a cousin of the late Professor Stocks, Vice-Chancellor of the University of Liverpool.

For the last twenty years Mr. Stocks has been in architectural partnership with Mr. Jones. In the early years of their association the firm carried out a considerable amount of working-class housing for Leeds, Tadcaster and Rothwell local authorities, and whilst they have engaged in general practice, including the design of textile and printing works, they have in recent years specialised in estate development and the design of the smaller house. This work, designed in a manner inspired by Yorkshire traditional stone buildings, they have been able to carry out on a large scale. Practically the whole of the village of Linton-in-Wharfedale, and important additions to Carr's village of Harewood, are their joint work. The fact that these houses have been so much in demand is proof that the public can be made aware of the value of the services of the skilled architect in speculative house-building.



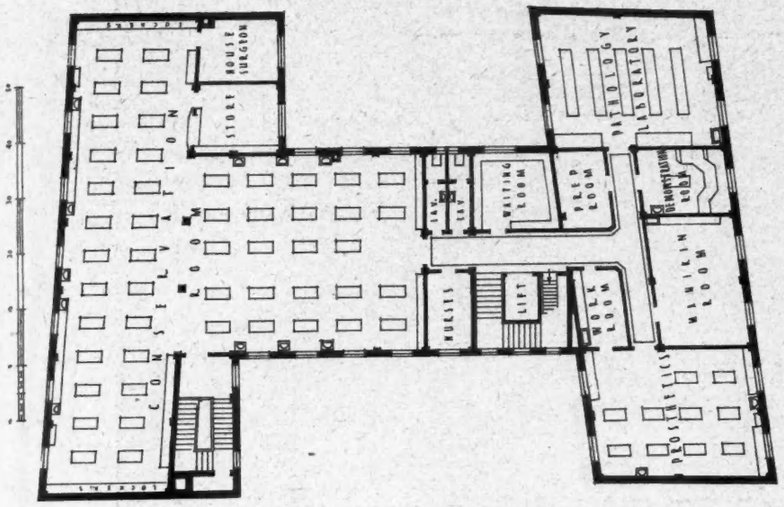


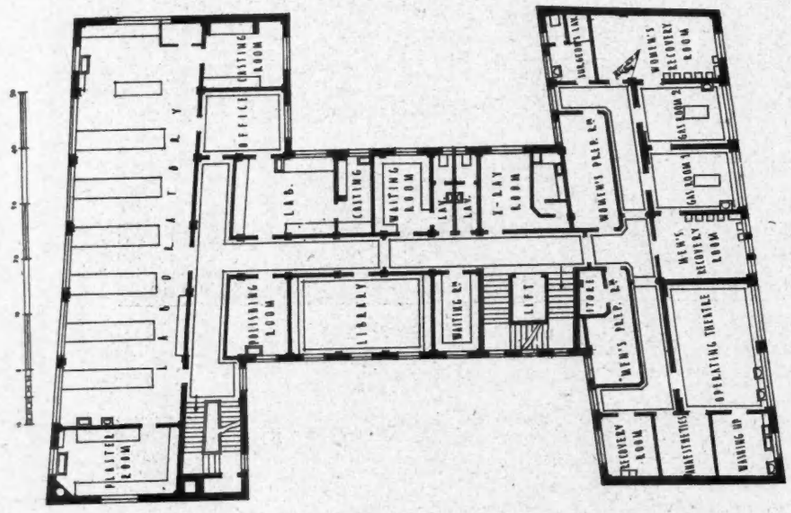
Above: THE MAIN FRONT.
Right: DETAIL OF ENTRANCE.

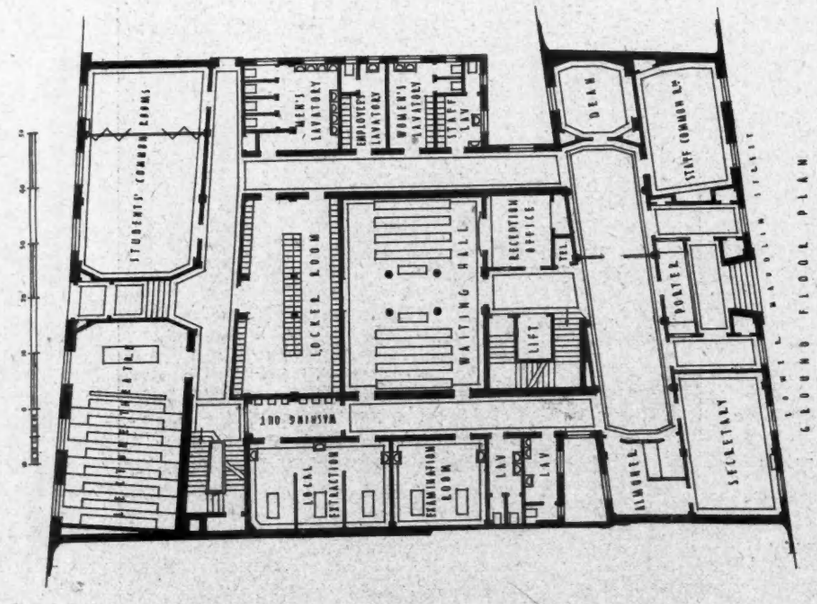
UNIVERSITY OF BRISTOL DENTAL HOSPITAL.

MR. EUSTACE H. BUTTON, R.W.A., F.R.I.B.A., ARCHITECT.

UNIVERSITY OF BRISTOL DENTAL HOSPITAL.







THE hospital centralises the work of the University Department of Dentistry in one building. The accommodation, which has been planned in accordance with the most modern dental practice, comprises the following:—

GROUND FLOOR.—Secretary and Almoner, patients' waiting hall with examination room and local extraction room. There are also the staff common room, panelled in English plane-tree, lecture theatre for 70 students, students' common room and locker rooms and lavatories.

FIRST FLOOR.—Operating theatre and gas rooms with patients' waiting-rooms, preparation rooms and recovery rooms. Students' library, with cork-tiled floor and teak bookcases, and laboratory for 50 students, with plaster room and casting and vulcanising rooms.

SECOND FLOOR.—Waiting-rooms, conservation room with 50 chairs for the care of teeth, prosthetics and orthodontics room for the fitting of artificial dentures and the care of children's teeth, nurses' room, demonstration theatre, pathological laboratory and preparation room and "Minikin" room for tuition. The top floor is lit by north-light glass roofs.

The interior has been designed to provide well-lit and colourful accommodation which will afford a cheerful atmosphere for patients. Balanced windows give maximum ventilation. Corridors are floored with "Korkoid" for quietness, and the walls have terrazzo dados for cleanliness. There are flush teak doors throughout, and teak floors to rooms. Heating is by low-pressure hot water with automatic stoker coal-fired boilers.

The exterior is faced with multi-coloured bricks, with Portland stone dressings on the front elevation. The entrance has anodised aluminium lettering and grille, with the University coat-of-arms in colour. There is a car-park and an air raid shelter.

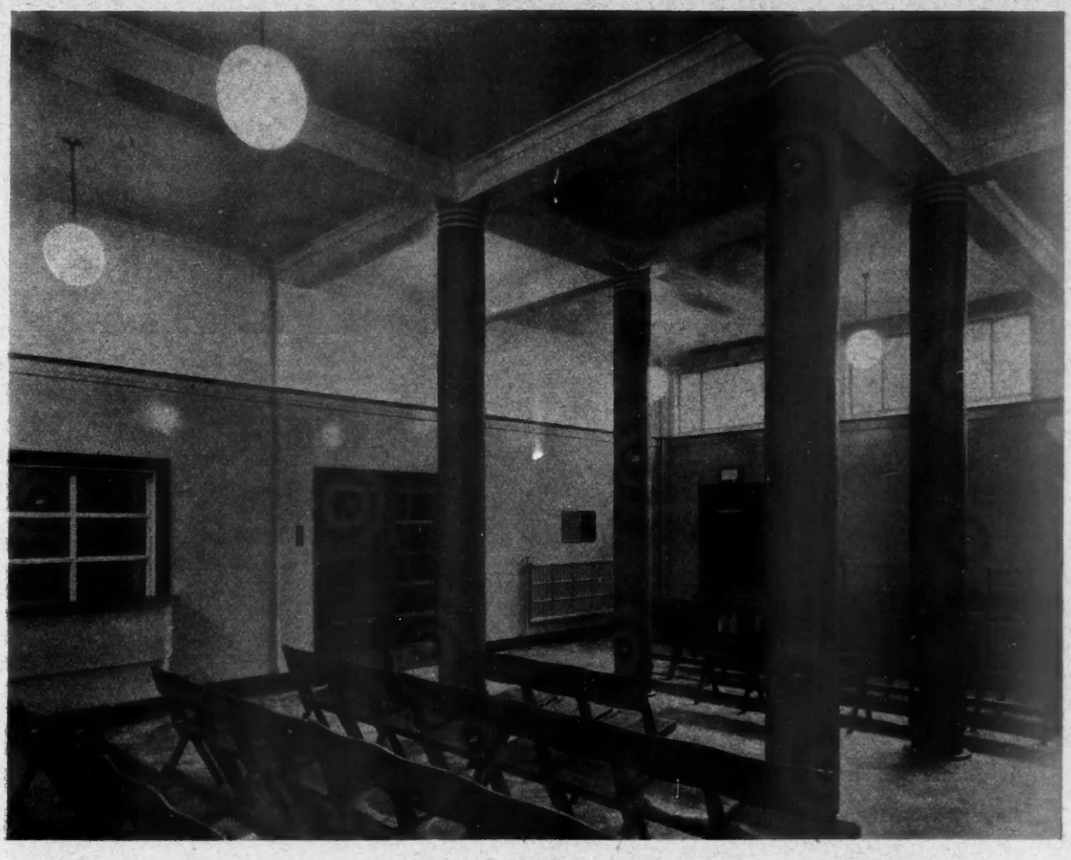
The architect is Mr. Eustace H. Button, R.W.A., F.R.I.B.A., Vice-president of Bristol Society of Architects; the electrical consulting engineer, Professor David Robertson, D.Sc., M.I.E.E., and the quantity surveyors, Messrs. Bernard and Son. The general contractors were Messrs. Henry Willcock and Co., of Wolverhampton and Bristol, builders of the Main University Buildings.

Sub-contractors were: Plumbing, G. F. Tuckey; heating, G. N. Haden and Sons; electrical, Colston Electrical Co.; windows, etc., Mellowes and Co.; teak floors, Horsley, Smith and Co.; terrazzo, Marble Mosaic Co.; tiling, Collinson and Co.; doors, Veneercraft, Ltd.; lift, Pickerings, Ltd.; panelling, G. Parnall and Co.; asphalting, Asphalte Specialists, Ltd.; glazing, W. Goldman and Son; steelwork, Gardiner, Sons and Co.; reinforced concrete floors, Kleine Co.; door furniture and grille, James Gibbons, Ltd.; and anæsthetic gas installation, Coxeter and Son.

Fittings and furniture were supplied by: H. Willcock and Co.; P. E. Gane, Ltd.; A. Tavener; B. Maggs and Co.; A. G. Matthews, Ltd.; Smith's Systems; and Smith and Co. (School Furnishing), Ltd.

Dental equipment was supplied by: Dental Manufacturing Co.; Western Dental Manufacturing Co.; C. Hearson and Co.; Klaxon, Ltd.; Unicam Instruments, Ltd.; Ferris and Co.; Down Bros.; and C. and L. E. Attenborough, Ltd.

The Epidiascope was supplied by F. Bromhead.

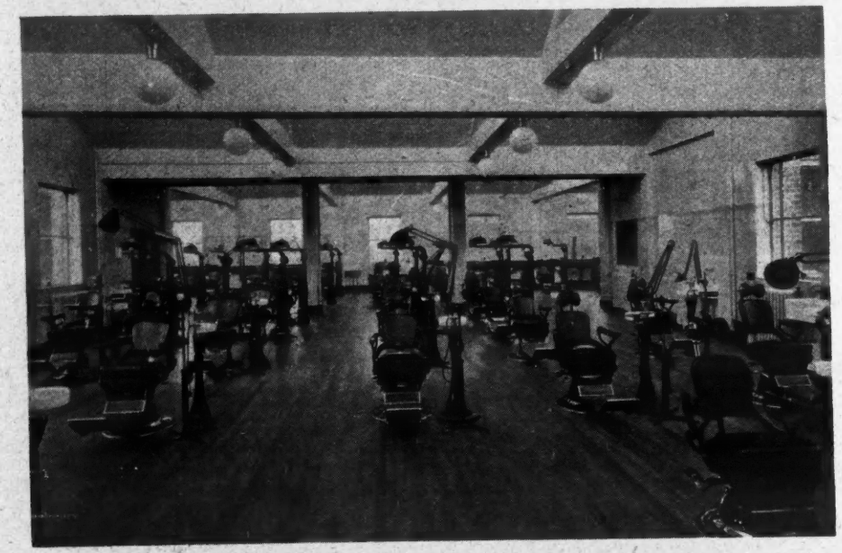


PATIENTS' WAITING ROOM.

STAFF COMMON ROOM.

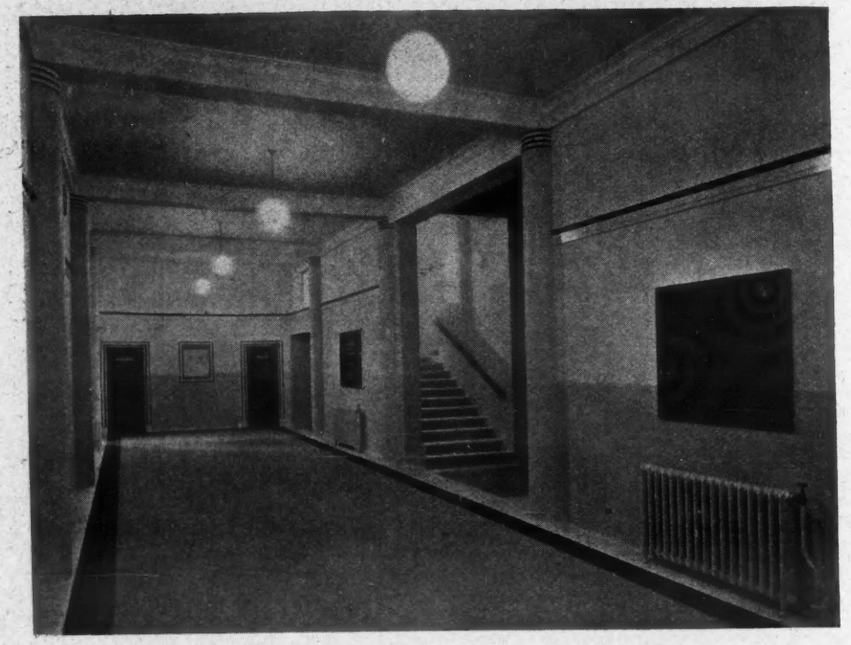
UNIVERSITY OF BRISTOL DENTAL HOSPITAL.

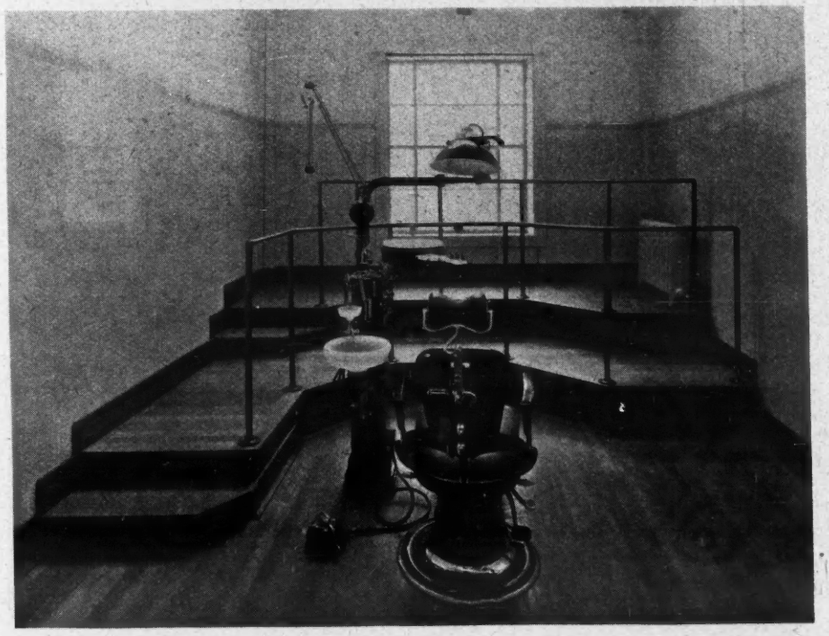
MR. EUSTACE H. BUTTON, R.W.A., F.R.I.B.A., ARCHITECT.



THE CONSERVATION ROOM. *Below*: ENTRANCE HALL AND MAIN STAIR.

THE LECTURE THEATRE. *Below*: THE DEMONSTRATION ROOM.

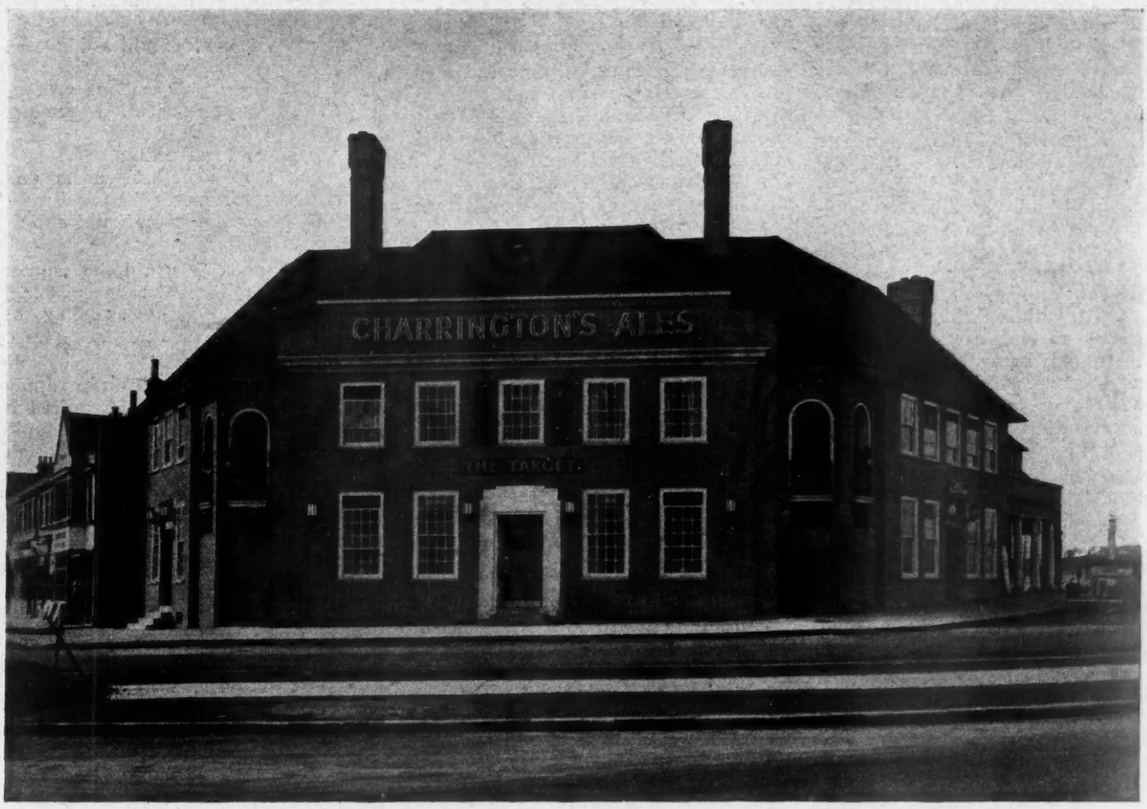




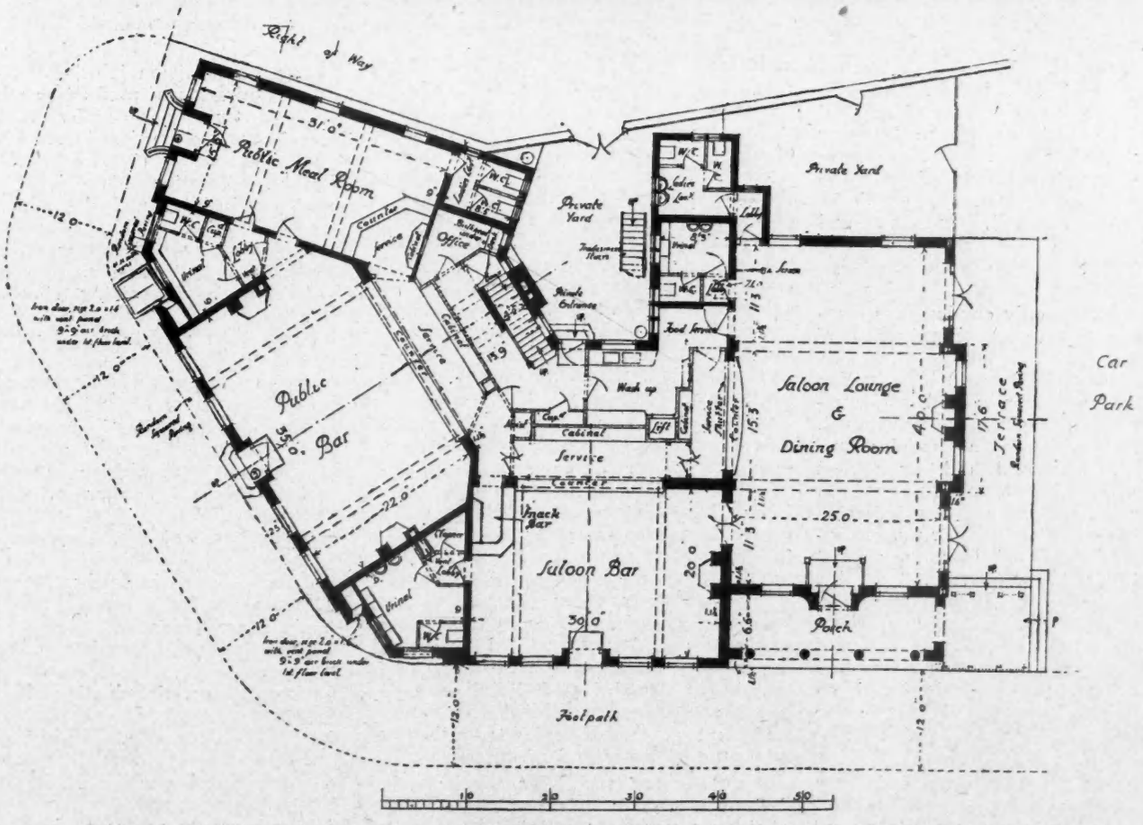
UNIVERSITY OF BRISTOL DENTAL HOSPITAL. MR. EUSTACE H. BUTTON, R.W.A., F.R.I.B.A., ARCHITECT.

THE "TARGET" PUBLIC HOUSE, WESTERN AVENUE, NORTHOLT.

MR. ROBERT G. MUIR, F.R.I.B.A., ARCHITECT.



GENERAL VIEW.



GROUND-FLOOR PLAN.

Standing on a corner site in Western Avenue, this house has been erected for Messrs. Charrington & Co. Ltd. in brick, roofed with sand-faced tiles. The main entrance is in cast stone. The service space serves both bars as well as the public meal room and the saloon lounge and dining-room. Messrs. H. D. Bowyer, of Slough, were the builders.

THE CASE FOR PRE-FABRICATION

LECTURE AT THE A.A.

At a special meeting on May 2 of the R.I.B.A. and Architectural Association Junior Members' Sections, held at the A.A. premises in Bedford-square, a paper on "The Case for Pre-fabrication" was read by Mr. Denis Clarke Hall, A.R.I.B.A.

The general problem (he began) was to evolve methods of construction that not only had all the advantages of the existing methods, but had, in addition, advantages that were beyond the possibilities of those methods. Analysis of existing methods of building construction showed that in general those methods were satisfactory for all building, but that they involved many varying degrees of error, contingencies and waste of effort, time and material—waste which varied according to conditions and type of construction but was never satisfactorily eliminated.

Waste was due to: (*a*) Uncertainties of weather; (*b*) effect of weather on materials; (*c*) conditions of local labour market; (*d*) difficulties of site organisation; (*e*) effect of weather on labour; and (*f*) handling of materials. All such points were beyond the control of the architect. Any system of construction that was subject to those uncertainties was open to improvement. Such uncertainties were roughly estimated by the tendering contractor, and were either paid for by the building owner or contractor according to the accuracy of the estimate. The percentage of waste was inversely proportional to the quality of the building; the cheaper the building the higher the percentage of waste. So long as the building market was for relatively prosperous building, that waste percentage was comparatively small.

In every crisis, when the prosperous building market fell, building activity continued only in the cases of greatest economy. In such crises the building industries had turned to alternative systems of construction in attempts to achieve economy. Examples could be drawn from England, America and Germany.

Overcoming Waste.

The methods usually employed to overcome waste were: (*a*) organisation of site work; (*b*) increased use of the specialist sub-contractor; (*c*) introduction of standard components; and (*d*) introduction of site machinery. But such points only represented a partial attack on the problem and did not affect methods of erection to any great extent. They were important as they indicated possible bases for greater saving. Existing methods employed to a very great extent standard components. Scientific production had only been comprehensively applied to the production of these components, the cost of which varied directly with value. As erected in their final positions, the cost depended on quality, erection, labour, and waste due to uncertainties—factors which also affected the final efficiency.

Much work in the past had been directed along side issues such as: (*a*) to market proprietary materials and equipment; (*b*) attempts to adapt inapplicable preconceptions; (*c*) need for immediate results for advertisement; (*d*) general misconception of the real problems; (*e*) attempts to produce a marketable "stunt" which loses sight of fundamental building needs.

The general public, the majority of architects, and the building industry in general, were opposed to new methods on the following grounds: (*a*) the failures resulting from the above attempts; (*b*) failures that were the inevitable lot of any new science and research; (*c*) the general idea that new methods could only apply to temporary structures of poor architectural and structural qualities; (*d*) general prejudice, tradition, and vested interest; and (*e*) unsupported extravagant claims as to the possibilities and advantages of new methods.

The Actual Problem.

"The real problem of and need for new methods has resolved itself," declared the lecturer, "into the evolution of methods of construction that eliminate to the greatest possible degree all contingencies, waste of effort, material and time that are to be found in the existing methods universally employed. This must apply to the whole process of building from the initial conception to the final realisation. Any other problems and aims may be of great importance for certain works, but must be regarded as apart from the main problem. Such problems may be solved in the solution of the main problem and as such may become incorporated in general building that adopts the new methods.

Prefabrication.

"Past work in search of more satisfactory constructional methods has shown that most waste occurs during erection and this work can only be reduced by reorganising labour in such a way that the greatest possible percentage of work is done under conditions that are capable of direct control and not subject to the uncertainties of site work. The greater the percentage of work that comes under strict control the greater the economy through more accurate estimation and elimination of uncertainties. Standard building components to-day are subject to such control only in their production, and not in erection. In order that control may be had over erection, every component must be designed for the purpose of preorganised assembly.

"This point forms the basis for any new system of construction designed to eliminate as far as possible the uncertainties found in existing methods. Prefabrication must be extended from the prefabrication of components to the prefabrication of methods of erection. A building can only be regarded as prefabricated when every component has been designed for the purpose of shop production and preorganised precision assembly. Preorganised precision assembly of prefabricated building components opens up possibilities of organised and controlled erection with the minimum of waste and contingencies."

Prefabrication, added Mr. Clarke Hall, did not necessarily mean mass production of either components or finished products, but formed the only satisfactory basis for mass production should the economies of mass production be considered.

Practical Application of Prefabrication.

A. Total prefabrication and pre-assembly.

(i) Whole houses delivered complete.

B. Total prefabrication and partial pre-assembly.

(i) Whole room units delivered complete;

(ii) Whole wall sections prefinished.

C. Total prefabrication pre-organised site assembly.

(i) Structural units;

(ii) Semi-structural units on semi-structural frame;

(iii) Non-structural units on structural frame.

A, *B* and *C* could be successfully applied to unlimited range of design and material with great economy by the adoption of the module principles of production.

C could be successfully applied to standard sections cut to required lengths (*e.g.*, steel sections), but its application was limited to suitable materials and module of section.

Following was a key to the suitability of various types in relation to materials and building:—

A. Small dwellings, etc., in limited area.

B (i) as above, but for larger buildings, *B* (ii) all dwellings, etc., within economic range of transport. *A* and *B* only suitable for timber, wall-boards, and light sheet-metal.

C (i) any buildings under three storeys suitable for any material; *C* (ii) suitable for all large building work, mainly suitable for steel and concrete; *C* (iii) as *C* (ii) but not so economical. Combination of steel or concrete frame with *C* (i).

Methods of Organisation.

(*a*) Organisation of design. Design must be based on precision jointing.

(*b*) Organisation of production and distribution. Cutting schedules take the place of construction drawings.

(*c*) Organisation of site work and assembly. Erection is done from assembly schedules and diagrams, progress schedules, delivery schedules, placing schedules and labour schedules.

(*d*) Methods of tendering. Tenders are based on take-off pricing sheets and schedules.

(*e*) Effect on private and local architect, etc.

The principles of prefabrication opened up possibilities far beyond the scope of existing methods. They included:—

(*a*) High demolition value;

(*b*) Possibility of dismantling and reassembly in similar or different forms;

(*c*) Great ease of alterations and additions;

(*d*) Possibilities of allowing prospective house-owners to erect own dwelling in spare time;

(*e*) Possibilities of complete segregation of materials;

(*f*) Possibilities of reduction of general cost;

(*g*) Possibilities of introducing the full economies of the modern technique of production to the whole range of building activity.

All such points represented additional advantages to normal methods which could be of great importance, especially to some types of building.

Present Conditions.

"The building industry," concluded the speaker, "has been faced with a sudden crisis and demand for economical construction employing substitute materials. The industry was unprepared for this demand, and is attempting solution by putting forward methods that have not been backed by sufficient research and experiment. These methods are being put into practice and are destined for failure. This failure will be a repeat of the 'alternative systems' employed after the last war, and will give those opposed to new methods arguments against any efforts in this direction.

"Existing methods are the result of years of practical experience. New methods of construction, such as prefabrication, cannot be based on such experience, nor can they be based on pure theory. Every successful practical realisation of prefabrication has been preceded by research and experiment involving many failures. The present crisis shows the extent to which the building industry is subject to economic constriction. The fact that in this and preceding crises the industry has turned to alternative systems points to the fact that building can continue if satisfactory systems of construction are evolved."

Such systems could not be satisfactorily evolved at short notice and by spasmodic activity resulting from various crises. Research and experiment, made with the full co-operation of the building industry as a whole, would evolve such a system. Such research must be carried on continuously in order to facilitate normal activity and make building possible under abnormal conditions.

PLASTICS AND BUILDING

In a paper read before the Royal Society of Arts on April 17 (Mr. W. H. Hatfield, F.R.S., in the chair), Mr. H. V. Potter, B.Sc., F.I.C., dealt with plastics as constructional and engineering material.

The technical plastics, he began, were a group of prepared materials whose properties of softening on heating and/or pressing rendered them extremely useful for shaping into finished articles which retain their shape on cooling. They were raw materials for many other industries. Historically they were ancient materials, bitumens being known before 2000 B.C., whereas the latest plastic to be produced was the year of 1940. The grandfather of the modern technical plastics was Josiah Parks, the inventor of celluloid in 1864. The father of the modern technical plastic, namely, the synthetic resin, or resinoids as we preferred to call them, was Dr. L. H. Baekeland, who in 1908 made the discovery of the phenolic resins and disclosed it in a series of world-wide patents. From that day there had been more intensive research on the resinoids and other plastics than, he believed, any other group of chemical products, with the result that while 35 years ago such a material was a novelty, to-day there were hosts of different types of resinoids, many of which were available commercially.

Applications to the Building Trade.

So far, plastic materials were not used in the building trade as main structures chiefly on economic grounds. On a weight-strength basis they compared favourably with metals and wood but were more costly at present, as in order to obtain the required strength against steel the equivalent weight would require a very large bulk of plastic material too bulky to consider and far too expensive. If it were a question of weight-saving, then it was another question, such as in aeroplane construction.

Provided certain assumptions were permitted, an interesting comparison could be made between wood beams as used in the construction of buildings and similar beams made of plastic materials. The diagram (reproduced) showed the cross-section of three beams :—

(a) A solid oak beam capable of carrying a dead load of 1,000 lb. per foot run over a span of 15 ft. It was based on a stress of 5 tons per sq. in. with the usual factor of safety of 6. Its weight per foot run was approximately 31 lb.

(b) A solid plastic beam capable of carrying the same load as (a). The approximate weight was one and one-third times that of the oak beam. The dimensions were calculated on a stress of 5 tons per sq. in. with a factor of safety of 4. The lower factor of safety could be taken because of the uniformity in strength obtained in the built-up material. It was possible, however, to mould hollow beams; and

(c) Showed the cross-section of a hollow beam of similar material dimensions and weight approximately the same as the solid oak beam. The strength of this hollow beam was approximately 10 per cent. stronger.

(d) Showed a hollow beam of another plastic with same carrying load but lighter in weight.

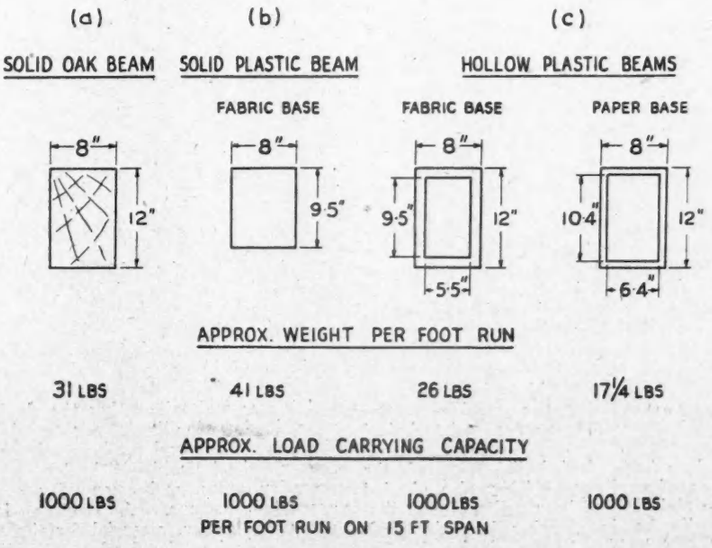


DIAGRAM I.

All the calculations had been based on the assumption that the neutral axis passed through the centroid and that a plane surface before bending remained a plane surface after bending.

"There is," said the lecturer, "a difference in the modulus of elasticity of the two materials. The plastic materials in use at the present time have a lower modulus of elasticity than wood : the deflection of the plastic beams shown in the slide, therefore, will be greater than the deflection of the oak beam. The problem of deflection, however, would not appear to be insurmountable. Newer plastic materials having a higher elastic modulus are being developed, and it may be possible to modify the cross-section of a plastic beam to ensure the greatest strength and minimum deflection per foot run of weight. I give you this simple comparison, as I think it will be of interest. You will appreciate that this rules out plastics as a main constructional member for buildings for the time being on grounds of cost and adjustment of certain characteristics.

"Applications in the building trade are at present mostly for surfacing, either as wall panels, which may be natural wood finished or obtainable with an imitation wood finish, or they may be finished in various bright colours. These are usually of a laminated structure with a paper base, but in the case of some thermoplastic materials they are solid sheets. Panels of plastic materials are also used for such purposes as partitions, flush door surfaces, cupboard doors, shelves, window sills, skirtings and kicking boards, tops for tables, dressing tables, desks and other pieces of furniture, bath fronts and wash-basin splashboards.

"An example of a structural unit made from plastics is the fan complete with casing, which is built up of individual mouldings assembled into one complete unit. The fan is mounted in window panes, and serves the purpose of ventilating rooms of houses, offices and even factory workshops; in the last-mentioned case for exhausting corrosive fumes. Veneers of plastic on the surface of wood are used extensively for certain qualities of furniture. For engineering purposes plastic sheets are regularly used in large quantities for electrical and radio equipment and for lining of goods lifts. The modern telephone kiosk is faced largely with plastic sheet panelling, while in some of the more modern stores and hotels it is to be found fitted in such places as counter tops, table tops and wall panelling, sometimes glossy black, but also in various bright colours, either glossy or semi-matt finishes."

THE NEW EVACUATION SCHEME

A DISAPPOINTING RESPONSE.

The small number of London parents who had registered their children for the new evacuation scheme had prepared the authorities for a similar situation in other evacuation areas. The results of a national survey made by the Ministry of Health now shows that of the children still in the evacuation areas and eligible for the new scheme only 8 per cent. have been registered; the parents of 19 per cent. refused the Government's offer; and the parents of 850,000 children—about 73 per cent.—sent no reply.

The majority of parents, even in the most obviously dangerous areas, seem to have made up their minds that our air defences and shelters make preparations for a further dispersal of their children unnecessary. Only in Liverpool and Hull did the total of acceptances exceed that of refusals, but in Hull 28,100 papers were not returned and in Liverpool 78,400. At present there are approximately 1,158,000 school children in the dangerous evacuation areas and 344,000 still in the reception areas under the Government scheme.

OBITUARY

J. E. Swindlehurst, Sen., M.Inst.C.E.

We regret to record the death of Mr. J. E. Swindlehurst, late City Engineer of Coventry, a post which he held until his retirement in 1924. Mr. Swindlehurst was elected a Member of the Town Planning Institute in 1915.

Sir Henry Alexander, D.L.

Sir Henry Alexander, whose death has taken place, was a former Lord Provost of Aberdeen and noted figure in the world of town planning. Sir Henry entered Aberdeen Town Council in 1925, and in 1928 he was appointed Chairman of Aberdeen and District Joint Town Planning Committee. For five years he inspired and directed the work of preparing the town-planning scheme for Aberdeen and Kincardine area, which has been regarded as a model. His town-planning work was acknowledged by his appointment in 1936 as Chairman of the Scottish Housing Advisory Committee. Other bodies on which he served were the Argyllshire National Forest Park Advisory Committee and the Scottish Committee of the Council for Art and Industry.

Burleigh D. Kilburn, M.A.

It is with great regret that we notice the death, at Steephill, Sidmouth, of Mr. Burleigh Dunbar Kilburn, M.A. Mr. Kilburn—who was a graduate of Christ Church, Oxford, and a barrister-at-law—was for many years responsible for the Legal Section of this journal, which was, until recent years, a monthly feature. Mr. Kilburn had a wide knowledge of building law and was an authority on the subject of Workmen's Compensation. He was in his 80th year.

Hugh Owens.

The death is announced of Mr. Hugh Owens, the senior ordinary member of the Liverpool Architectural Society, in his 81st year.

Mr. Owens was elected an Associate of the Society in 1886, and became a Fellow eight years later. Up to his death he took an active part in his firm, Richard Owens and Son, founded by his father, who planned and built the greater part of Everton.

As surveyor to the firm of David Roberts, Son and Co., Mr. Owens was responsible for the development of a very large part of the outskirts of the city, and at the time of his death was still engaged in this work in the Broad-green district. Like his father, he was the architect of many Nonconformist churches in North Wales and Liverpool.

Henry Riley, F.S.I.

We regret to record the death, at the age of 79, of Mr. Henry Riley, F.S.I.

Mr. J. M. Theobald, P-P.S.I., writes :—

As one of his oldest friends, I may perhaps be allowed to write a few words of appreciation of Henry Riley—first the man, and secondly the surveyor. His sudden death at the age of 79 came as a great shock to those of us who had been privileged to work with him during a great part of his professional life of over half a century and who are in a position to realise his invaluable technical services to the quantity surveying profession.

The chief characteristics of Riley were his sense of humour, his geniality and his never-failing kindness to all with whom he was brought in contact. His great knowledge and experience were always at the disposal of those needing help or advice, and one always felt one could turn to him in any doubt or difficulty. He was one of the most modest and unassuming of men and, great as were his services to our branch of the profession, one would never learn of them from him.

He was the senior partner in the firm of Henry Riley & Son, FF.S.I., having, in 1927, taken his son into partnership. In 1906 he was elected a member of the Quantity Surveyors' Association and almost immediately became a member of its Council. On the amalgamation of the Association with the Chartered Surveyors' Institution in 1922 he became a Fellow of that body and served on its Quantity Surveyors' Committee from that year until his resignation, when its Vice-Chairman, in 1930. He also acted as Examiner in the subject of "Analysis of Pricing" for the Final Examination of the Institution.

Apart from his technical professional standing, Riley will always be remembered for his invaluable pioneer work in connection with the Standard Method of Measurement—in its earliest stages under the ægis of the Quantity Surveyors' Association and, subsequently, for five years as a member of the Joint Standard Method of Measurement Committee of the Institution, the National Federation of Building Trades Employers and the Institute of Builders. He was also a member of the Institute of Arbitrators.

In the last war he served in the Special Constabulary from 1914 to 1917, after which he was engaged in ambulance work in the British Red Cross and Order of St. John of Jerusalem and received the War Service Bar. As a Mason, he was Past Master of his Lodge and attained London Grand Rank.

With the passing of Henry Riley is severed yet another link in the chain of those men who have done so much in the past to raise the status of the quantity surveyor and to whom the present generation owe a deep debt of gratitude.

LAW REPORT

CLAIM OF NEGLIGENCE AGAINST ELECTRICAL ENGINEERING COMPANY.

KING'S BENCH DIVISION.

Before MR. JUSTICE ATKINSON.

Kerry v. Keighley Electrical Engineering Co., Ltd.

This was an action by Mr. A. C. Kerry, of Sandhurst-road, Kingsbury, Middlesex, against the Keighley Electrical Engineering Co., Ltd., of Dalton-lane, Keighley, Yorks, to recover damages for personal injuries sustained by the plaintiff through the alleged negligence of the defendant company, their servants or agents.

The plaintiff was, in December, 1938, employed as the chauffeur to the tenant of a third-floor flat in premises known as Kendal-court, Shoot-up-hill, London, N.W., in which the defendant company had installed an automatic lift of the push-button type. On December 22, 1938, the plaintiff, after leaving a wireless set in his employer's flat and intending to go down to the street by the lift, walked backwards towards it and in some way caught hold of the handle of the landing door and, believing that the lift was in position, proceeded to enter it backwards. The lift, however, was not there, and the consequence was that the plaintiff fell down the shaft, a distance of 21 ft., sustaining injuries for which he now claimed damages.

His case was that the defendants were responsible as the manufacturers of the apparatus and of its installation and maintenance. He alleged that they were liable by reason of the fact that the safety device consisted of two entirely independent mechanisms—one controlling the opening of the door, and the other controlling the electric current whereby the lift was operated—whereas the two mechanisms should have been interdependent. The plaintiff also alleged that the mechanism controlling the opening of the door was liable to failure on several technical grounds.

The defendants denied liability and the allegation of negligence. They also pleaded that the plaintiff had been guilty of contributory negligence in stepping into the shaft without first looking to see whether the lift was in position.

They also called evidence to show that the locking gear of the door was examined and tested on November 15, 1938, and found quite satisfactory.

His lordship, after hearing the evidence and a ten-days' trial, held that the defendants were liable, because they owed to the plaintiff and others using the lift a duty to maintain it in such a condition that when the door of the lift was open the lift was in position in readiness for the passenger who would, in the ordinary course, expect it to be there. The defendant company had failed in that duty, and judgment would be entered for the plaintiff. He (the judge) assessed the damages at £425, and for that amount the plaintiff would have judgment with costs.

A.A.S.T.A.

EVACUATION CONFERENCE, HULL.

A CONFERENCE on the problem of evacuation was organised by the School of Architecture at Hull on April 17 to discuss the use of camps for evacuation and the associated problems of organisation and construction of camp buildings. With the conference was an exhibition of drawings and screens of various schemes. The largest of these were the drawings of a Reception Centre at Scalby, which was illustrated in the last issue of *The Builder*.

MR. A. W. BARR (Secretary, A.A.S.T.A.) outlined the research work carried out by the Association and the Rural Planning Group of the Architectural Association. His Association, he stated, considered that evacuation had broken down because of the failure of the Government to consider the psychological, physical and financial burden which it placed on householders and the inadequacy of arrangements for the social and educational life of the evacuees. The proposals of the Association were not Utopian. The cost of the building scheme they suggested was £70,000,000. The Government had expressed noncommittal sympathy with the scheme but had rejected it on financial grounds.

MR. LEO DESYLLAS then gave an outline of the research methods used in preparing the Association's recent report, "Evacuation in Practice," in collaboration with the A.A. Rural Planning Group. He stressed the Committee's main policy of preparing a scheme which would bear a direct relation to the possibilities of peacetime use after the war.

A second session, with MR. MAX LOCK (Head of the Hull School of Architecture) in the chair, dealt with the technical implications of the camps programme.

A Meeting in Bristol.

On April 10, a meeting organised by the local branch of the A.A.S.T.A. was held in Bristol. The chief speaker was MR. K. J. CAMPBELL, A.R.I.B.A., who remarked that so far as possible he would refrain from mentioning politics, but that it should be borne in mind that, while architects tried not to meddle with politics, politics meddle disastrously with architects, so that it might be impossible to avoid the subject altogether. In view of the present position of the professions and the building industry, the A.A.S.T.A. realised that it was urgently necessary to bring together all professional and technical assistants in the industry to see if something could not be built out of the wreckage.

During peace time, houses, schools, antenatal and maternity clinics, health centres, recreation and community centres, were all required. In war time, in addition to the foregoing, evacuation and A.R.P. buildings were badly needed. By the admission of the Government itself, the first evacuation failed, and it was maintained that the chief reasons were inadequate living accommodation for children, babies and mothers, of the lack of proper school facilities, health services in reception areas, and community centres for evacuated persons. A positive, long-term evacuation policy, essential for the safety of our population, involved a building programme.

THE LONDON BUILDING ACTS.—IV.

SETTLEMENT OF DISPUTES AND DIFFERENCES.

By W. T. CRESWELL, K.C., Hon. A.R.I.B.A., A.S.I., etc., assisted by NORMAN P. GREIG, B.A., Barrister-at-Law.

2. Special Procedure under Section 55 of the 1939 Act.

Rights of Building and Adjoining Owners.—The settlement of differences which arise, or are deemed to have arisen, between a building owner and an adjoining owner in respect of any matter connected with any work in which their respective rights are involved under Part VI of the 1939 Act, are contained in Section 55 of that Act, which replaces and amends Section 117 of the Act of 1930.

The procedure contained in this section is not arbitration, though the decision, by whomsoever it is made, is termed an award. It is a conclusive award, but nevertheless an appeal against the award can be made to the County Court by either of the parties. Where an appellant is unwilling that the County Court should give a decision, and both satisfies that Court that he will, if unsuccessful, be liable to pay a sum, exclusive of costs, exceeding £100 (£50 was the amount mentioned in Section 117 (5) of the 1930 Act), and give such security as is approved by the County Court to prosecute his appeal in the High Court, he may bring an action in that High Court against the other party. He must also bind himself to "abide the event thereof," *i.e.*, to regard the decision as final in the sense that there can be no further appeal against it.

Briefly, the procedure, which is intended to apply to *structural* damage only, is as follows. In its simplest form, both parties must concur in appointing one surveyor, called the "agreed surveyor." If he refuses, or for ten days after a written request by either party neglects to act, or dies before the difference is settled, or becomes incapable of acting, the whole procedure must begin again from the beginning. An alternative is that *each* party appoints a surveyor, and those two select a third, the three being designated "the three surveyors." If this latter method is adopted, and either party refuses, or for ten days after a written request from the other neglects, to appoint a surveyor, *the other party can make the appointment on his behalf.* If one of "the three surveyors" should die, or become incapable of acting, the party appointing him can appoint another surveyor in his place, and all appointments and selections must be in writing. If one of "the two surveyors" appointed by the parties, or the surveyor appointed to fill a vacancy on death, etc., refuses, or for ten days after a written request by the other party neglects to act, then the other surveyor can act on his own as though he had been the "agreed surveyor." If one of the two surveyors appointed by the parties refuses, or neglects (as above) to select a third surveyor, then the superintending architect of the London County Council, or, where that architect is a party to the difference, the Secretary of State may, on the application of *either* party, select the third surveyor. If a third surveyor selected by the surveyors to the parties refuses, or for ten days after a written request *by either party or the surveyor appointed by either party*, neglects to act, or dies or becomes incapable of acting before the difference is settled, the other two of the three surveyors must select another surveyor in his place.

The Award.

So much for the composition of the tribunal—now as to the award, which is to settle any matter in dispute between a building and adjoining owner either before the commencement of any work in relation to a notice under Part VI of the 1939 Act, or during the continuance of the work. The award may be made by "the agreed surveyor," "the three surveyors," or any two of them. If no two of "the three surveyors" are in agreement, the third surveyor selected as above must make the award within 14 days after being called upon to do so. But this does not constitute him an "umpire."

The award may determine the right to execute, the time and manner of executing any work, as well as any other matter arising out of and incidental to the dispute. In general, no work likely to be the subject-matter of the award should be commenced before the award is made.

The costs incurred in making or obtaining an award, and the cost of reasonable supervision of carrying out any work to which the award relates (a new provision, by the way) are to be paid by such of the parties as the surveyor or surveyors making the award determine. Finally, the award, as already stated, is to be conclusive and cannot be questioned except as explained in the opening paragraphs of this article.

(To be continued.)

EMERGENCY INQUIRY BUREAU

Questions from readers arising out of War-time difficulties and recent Emergency legislation will be answered by a special staff of contributors. Questions, which should be addressed to the Editor, should be accompanied by a stamped addressed envelope.

Summer Felling and Stain.

SIR,—*In view of the Government's request that felling and processing of home-grown timber shall proceed during the coming summer, I should be glad if you could advise me how best to prevent the appearance of "blue stain."* LUMBER.

We would refer our correspondent to a useful Leaflet (No. 15) recently issued by the Forest Products Research Laboratory, Princes Risborough, Bucks. The leaflet prescribes treatments for the ills of felling shakes, end splits, fungal attacks and insect infestations, and surface checks and splits, in addition to stain; all these troubles are particularly prone to occur in summer felling.

In regard to the stain, the likelihood of such attack is greatly lessened if the felled timber is quickly converted into plank and piled so that the surfaces may be dried before the stain has time to develop. Where discolouration does occur, however, the timber should be treated with some antiseptic solution immediately after sawing. The names of two proprietary preparations are given in the Leaflet.

Pre-war Contracts: Extra Cost.

SIR,—*I have a number of contracts on hand which were placed before the outbreak of war, and in some cases the contractors have raised the question of extra cost of materials and wages, stating they are unable to carry on at their contract price. What is the exact position to-day in the building industry as regards extras on wages and materials for contracts placed before the war?* READER.

A correspondent writes: There is no obligation on the building owner's part to pay anything further in respect to pre-war contracts for either materials or labour, unless the contracts contained provisions for such increases in the event of war. It follows that contractors failing to complete their pre-war contracts owing to increased cost of both labour and materials, or even the difficulty of obtaining materials, are liable for breach of contract. The damages for such breach might be only nominal; hence it may be to the interests of the building owner to meet his contractor's difficulty by an amicable arrangement for additional payment, and so as to obtain the completion of the contract. The R.I.B.A. has recommended such arrangement. A contractor, unless he is met in the manner just suggested, might well consider the advisability of breaking his contract, and the suffering of mere nominal damages, rather than run the risk of the increased cost of labour and material which now obtains, and which he must incur to complete his contract.

Liabilities of Contractor Against Fault of Nominated Sub-contractor.

SIR,—*In August last we were carrying out work to an A.R.P. depot, and a provisional sum was included in the contract for an air raid shelter. We were instructed by our client to accept a quotation from a concrete specialist for the shelter, but there was no specification for this work, nor were any details given to us.*

The client now expresses dissatisfaction with the shelter owing to percolation of water, and the sub-contractor states that he carried out the work included for and did not include a guarantee for the shelter being watertight. The client states that we are responsible for the satisfactory carrying out of all the work and that we should see that the sub-contractor did his work properly. We should be glad to have your views on this matter. CONCERNED.

A correspondent writes: There is no doubt that a contractor is liable for the faulty work of his sub-contractor, since there is no privity of contract between the contractor's employer and the sub-contractor. The fact that the sub-contractor was nominated makes no difference. The sub-contractor must look for payment to the general contractor and must therefore satisfy him. It is idle to suggest that no guarantee was given by the sub-contractor for the shelter being watertight. The sub-contractor was bound to give a satisfactory shelter, and it certainly cannot be satisfactory if it is not watertight.

The inquirer should call upon the sub-contractor to make the shelter watertight and refuse to pay him for it till he has done so.

Control of Timber (No. 10) Order, 1940.

SIR,—*With reference to article 3, paragraph 2 of the above—"Every person carrying on any undertaking which involves the production, treatment, keeping, storage, distribution, disposal, acquisition, use or consumption of any timber, boxboards or veneer shall (a) keep a record . . . etc."—we should be glad to know if this instruction applies to builders holding small stocks of timber for use in connection with their business as builders.* E. W. B.

The Timber Control Department of the Ministry of Supply state that builders who are carrying on an undertaking involving the storage of timber come within the provisions of Control of Timber (No. 10) Order.

Operatives' Return Fares.

SIR,—*How often are men working away from home entitled to a return fare home?*

Men are allowed return fare home once a week if the distance sent be not more than 20 miles; if more than 20 miles and up to 40 miles, once a fortnight; from 40 miles to 60 miles, once a month; over 60 miles mutual arrangements have to be made between employer and operative before going to the job.

Now Published — Sixth Edition
Revised throughout and greatly enlarged, superseding all previous issues.
HOW TO ESTIMATE
FOR EVERY CLASS OF BUILDING WORK
By J. T. REA.
Containing 730 pages with over 600 illustrations.
Large 8vo. Cloth gilt. Price 16/- net. (By post 16/9).
The 6th edition of this unique work represents, in fact, quite a new undertaking, brought up-to-date in every way, including a large amount of original memoranda, complete revision of prices, examples of analysis, and fresh details of costing, involving many thousands of figures, hundreds of calculations, and immense labour and research. Being self-contained, it avoids the weary hunt in other books for the vital, detailed knowledge which is usually hard, if not often impossible to find.
B. T. BATSFORD, LTD.
Architectural Publishers,
15, North Audley Street, London, W.1.

CONCRETE SHUTTER PLATES

A SUBSTITUTE FOR TIMBER.

At to-day's price of about 40s. a square, plus 10 per cent. for cutting and waste, 1¼-in. wrought boards as used for shuttering concrete cost about 4s. a yard super for the sheeting only. This timber is good for six uses at most, before expensive repairs are necessary.

Concrete shutter plates to the design shown in the accompanying drawing can be supplied at 6s. a yard super. There is no cutting or waste, and their life is indefinite.

The plates measure 1 ft. 6 in. by 1 ft. 6 in. Ribs are formed around the edges and across the slab in two directions; these ribs are 1 in. wide by 2 in. deep, and are reinforced with a ¼-in. bar. The panels, which measure 7½ in. by 7½ in., are only ¼ in. thick but have ample strength for the purpose.

Two holes are formed in each side rib for fastening adjacent slabs with wood wedges. These wedges are easily and quickly fixed and released, and they are so small and cheap that losses are not a serious matter.

The plates have been tested by supporting them on all four edges, erecting a boxing over them, and filling sand on top.

Plates with reinforced panels ¼-in. thick, made with rapid-hardening Portland cement, and tested eight days after manufacture, did not fail when the weight of sand amounted to 10 cwt., or about 4½ cwt. per square foot.

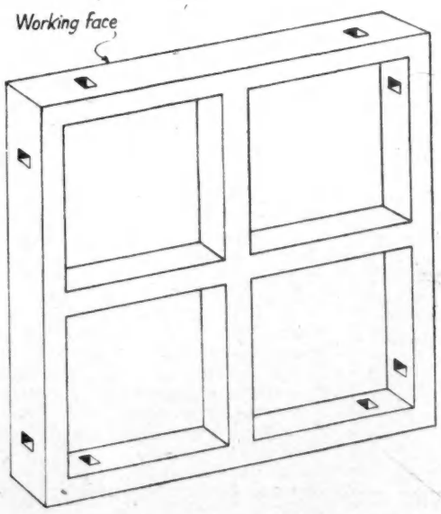
Plates with ¼-in. unreinforced panels, made with aluminous cement and tested at three days, withstood the same load without damage.

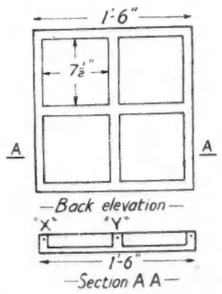
The plates are strong, and withstand rough handling without damage. A man can jump with both feet on the middle of one of the thin panels without breaking it.

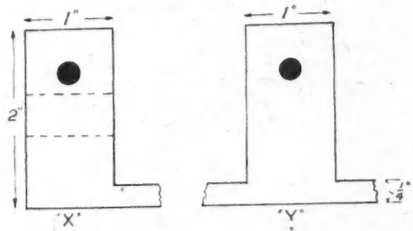
They weigh only 21½ lb. each, and so they can be easily handled and taken from one job to another. The working faces are perfectly smooth. They are supported in the same way as timber or steel sheeting.

These plates have been designed with the object of providing a light, adaptable and efficient substitute for timber or steel sheeting, at lower cost, on work where they can be repeatedly used or when they can be taken from one job to another. They could be made very quickly in large quantities by concrete products makers throughout the country.

The slabs comprise cement, sand and steel. Cement and sand are in plentiful supply, and there can be no shortage of these materials. One ton of steel is sufficient for 3,360 sq. ft. of these slabs, and these would save 350 cubic feet of timber every time they were used. They are actually cheaper than wood if they are used six or more times, due to the cost of repairing wood shuttering which is used more than once, and should then be as good as when they were new. A patent for the design has been applied for.

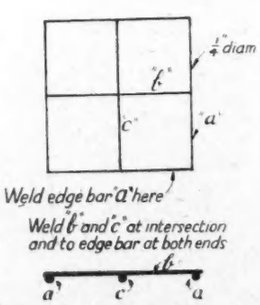






"CRETEFORM" CONCRETE SHUTTER PLATE

PATENT APPLIED FOR



IN PARLIAMENT

Steel Shelters.

Sir G. Schuster asked the Home Secretary what were the numbers of the steel shelters that had been delivered; for how many people they would afford shelter; and when the distribution of these shelters would be completed, so that the full steelmaking resources of the country might be made available for military requirements.

Sir J. Anderson said that it was originally estimated that 2¼ millions of the standard steel shelters would be required to supply the needs of the more vulnerable areas declared as "specified areas" for the purposes of Part III of the Civil Defence Act. This original estimate was later increased to approximately 2½ millions.

Up to the present date, 2,236,000 shelters had been delivered, and delivery instructions were being given for a further 50,000. These numbers included shelters of all the various sizes supplied, and altogether represented shelter capable of accommodating about 11½ million people. In view of the rapid expansion of our war production, it had now become necessary for the Government to review the existing demands for steel for various war purposes; and as a result of this review it had been decided that, after the completion of the deliveries now in prospect, which would bring the number of shelters supplied above the original estimate and up to fully 90 per cent. of the revised estimate, the steel which would have been used for the completion of the remainder of the programme should be diverted to other urgent war requirements for which no other material could be used in substitution for steel.

Local authorities had already been given particulars of a number of alternative designs for domestic shelters in brick and concrete, for which the Government paid the cost of the materials and grant on the cost of construction. He had sent out a circular adding some more simple types of design in the same materials, and was arranging for his regional technical officers to get into touch immediately with the small number of local authorities who had been expecting to receive in due course supplies of the standard steel shelter, but who would now have to forgo these supplies. By these arrangements he hoped that no time would be lost in providing in the areas affected the alternative types of brick and concrete shelter to which he had referred.

The Scapa Society.

The current issue of the Scapa Society's "Occasional Papers" indicates that this body will carry on its useful work during the war from 71, Eccleston-square, S.W.1, and from Bath.

OFFICIAL NOTIFICATIONS

Timber Control: Growing Trees.

By the Growing Trees (Delegation of Functions) Order, 1940, the Minister of Supply has delegated to the Forestry Commissioners certain of the powers conferred on him by Regulations 51, 53, 68 and 85 of the Defence (General) Regulations, 1939. The purpose of the Order is to authorise the Forestry Commissioners to exercise these powers of the Minister and so facilitate the production of home-grown timber.

Under Regulation 68 (paragraph 3) the Commissioners now have authority to identify growing trees, by marking or otherwise; and, where necessary in the national interest, to arrange for the felling of growing trees. The Commissioners may, under Regulation 53 (paragraphs 1 and 2), requisition timber which they have felled or caused to be felled.

Under Regulation 51 (paragraphs 1 to 3) the Commissioners may take possession of any land, where necessary in connection with their felling operations—as, for example, for the purpose of stacking or converting felled timber. They also have authority, under Regulation 85 (paragraph 1) to pass across any land, where their work demands it—as, for example, for the purpose of gaining access to woods where their felling operations are to be carried out, or removing felled timber to the roadside for transport to the points of consumption. Compensation will be payable in accordance with the provisions of the Compensation (Defence) Act, 1939.

Timber Control: Stock Returns.

The Timber Control announce that it has been decided to cancel Home Grown Stock Form "H.G.1—Round Timber." This form should not, therefore, be included in the next Stock Return due on May 4, nor in subsequent Stock Returns.

Timber Control.

The Timber Controller wishes to remind the timber trade that the closing date for the receipt of applications for trading quotas is now past. Accordingly, no further applications or requests for forms of application can be entertained. A very large number of applications for quotas has been received, and it will be some time before these can be dealt with and the quotas made known to those to whom they have been granted.

War-Time Rents and Rating.

At a meeting of the Auctioneers' and Estate Agents' Institute of the United Kingdom on April 19, Colonel C. C. O. Whiteley (Vice-President) delivered a paper on "Problems of War-Time Rents, Rating and Schedule 'A' Assessments."

SAFETY LIGHTS FOR A.R.P. PURPOSES

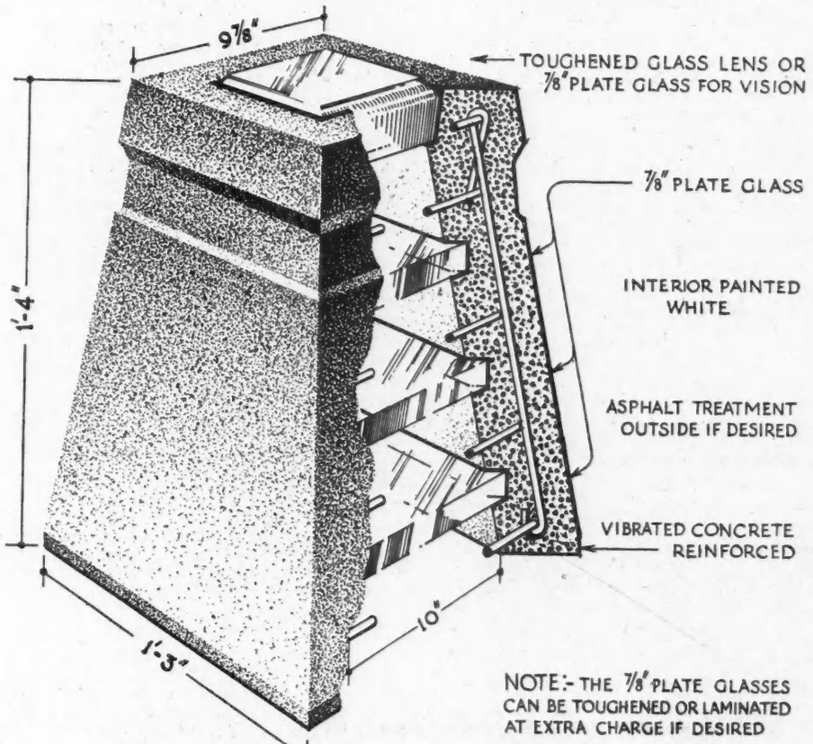
At a time when so many structures require the provision of light apertures which shall also allow of observation from within, special attention is drawn to units which satisfy this requirement without impairing the safety of the structure.

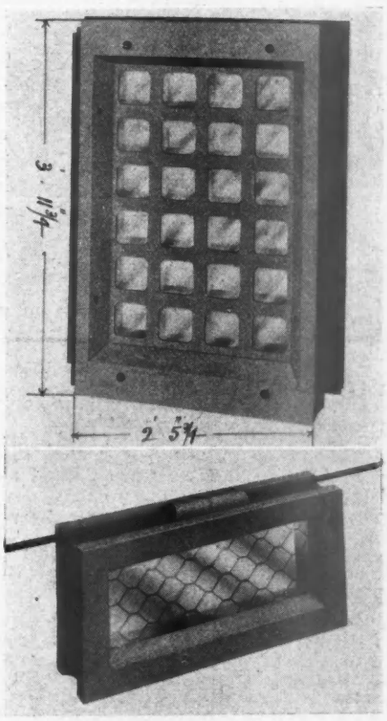
Messrs. James Clark and Eaton, Ltd., have devised a safety light for this purpose, in the form of a conical ferro-concrete unit for new or existing air-raid shelters, observation posts, fortifications, etc., which offer the maximum resistance to blast, splinters and bullets. As shown in the diagram below, this "Clark-Crete" light incorporates ⅛-in. sections of ordinary plate glass (toughened or laminated glass may be fitted if specially required), spaced at 3-in. intervals in a body of strongly reinforced concrete. Two types are available—the "V" type, permitting clear vision, and the "L" type, which allows light transmission only. In the latter a toughened glass lens is substituted for the external glass plate. This safety light is suitable for all structures planned for the protection of civilian or service personnel. Diagrams at the foot of the page indicate a few of its applications.

The same firm has also produced a panel light for wall and inclined roof lights in new buildings, and for external protection over the windows and inclined skylights of existing buildings. The light (illustrated in a photograph on this page) is a heavily reinforced ferro-concrete unit, embodying toughened glass lenses, designed to withstand a pressure of 400 lb. per sq. ft. Where splinter-proof protection is required, two or more panels can be applied, one behind the other. Each panel incorporates its own supporting member for the length of its sides. The longer sides are devised, on the tongue-and-groove principle, to engage with adjoining panels or to facilitate fixing in or to the structure. The shorter sides of the panels are channelled for the same purpose.

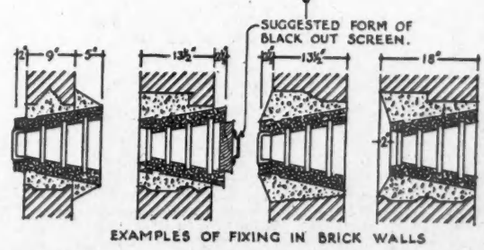
To allow of universal application, the units are supplied in two types, "A" and "B," the only variations being in the direction of the cavities of the lenses in relation to the tongue and groove. Panels are usually supplied with handles for handling and fixing purposes. To ensure adequate strength throughout an assembly of any number of panels, the supports of the units must be designed to the pressure which it is desired to resist.

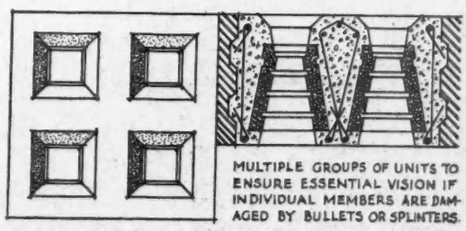
A variation of the panel unit which should also be most useful is the "Brick-Light"—a glass-and-concrete unit of standard R.I.B.A. brick size for incorporation in brickwork and for filling-in window openings. Experience has shown, it has been stated, that bomb-blast frequently results in the destruction of the entire window frame, and the "Brick-Light" provides a very convenient means of blocking the window opening and safeguarding against further damage. The unit is shown by a photograph on this page. The glass is ¼-in. thick wired plate, permitting good vision, yet, owing to its comparatively small area, capable of resisting considerable force. Three types are available: (*a*) without reinforcing rod; (*b*) with incorporated reinforcing rod (illustrated); and (*c*) the "V-Brick-Light" for ventilation.

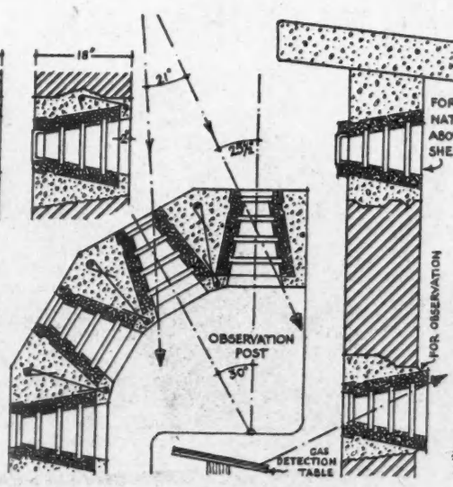

9⅞"
TOUGHENED GLASS LENS OR ⅞" PLATE GLASS FOR VISION
⅞" PLATE GLASS
INTERIOR PAINTED WHITE
ASPHALT TREATMENT OUTSIDE IF DESIRED
VIBRATED CONCRETE REINFORCED
1'-4"
1'-3"
10"
NOTE:- THE ⅞" PLATE GLASSES CAN BE TOUGHENED OR LAMINATED AT EXTRA CHARGE IF DESIRED

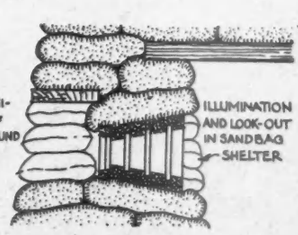


Above: A PANEL LIGHT *Below*: BRICK LIGHT.









A.R.P. SCHEMES

LONDON.

CATERHAM AND WARLINGHAM.—U.D.C. to borrow £2,500 in connection with public shelter.

CHELSEA.—For construction of two trench shelters, each to accommodate 50 persons, in grounds of the Royal Hospital and entered from Chelsea Bridge-road. B.C. recommended Concrete Structures, Ltd., at £461 3s.

DEPTFORD.—B.C. placed contract with H. T. Else, of Beckenham, for 313 domestic surface shelters.

HENDON.—T.C. accepted Comben and Wakeling, Ltd., amounting to £672 19s. 3d., for providing air raid shelter accommodation at Firth Manor school.—Plans passed for shelter, 56 and 58, Wykeham-road, Hendon, for N. Reichwald and W. Samuel, by F. C. Stockman, Ltd.

HESTON AND ISLEWORTH.—T.C. have been asked by C.C. for tenders to be invited for waterproofing domestic shelters where flooding occurs.

KINGSTON. — T.C. accepted tender of W. H. Gaze and Sons, Ltd., Kingston, for waterproofing shelters in gardens, at £3 7s. 6d., for standard type.—Tenders to be invited for various domestic surface shelter accommodation.—Council propose shelter accommodation in Market-pl.

LONDON.—L.C.C. approved works for shelter for members of public attending coroners' courts.

MERTON AND MORDEN.—U.D.C. placed contract with Allsites, Ltd., for brick surface shelters.

POPLAR.—B.C. resolved that Minister of Home Security be asked to approve following: Shelters, East India Dock-road, Blackwall Tunnel area for 721 at £1,901.—Chrisp-street area for 300 at £1,050.—Brunswick-road, Abbott-road area for 200 at £700.—Morant-street for 100 at £350.—Shelter adjacent to premises of Alfred Cohen and Sons, for use of firm's employees.—Manchester-road/Pier-street area for 100 at £350.—Abbott-road area for 100 at £350.—Bow Common-lane area for 100 at £350.—Pennyfields area for 450 at £1,575.—Appian-road/Lefevre-road area for 350 at £860.—Box-street area for 350 at £860.—Strutting of waiting room at West Ferry-road maternity and child welfare clinic at £200.—Contracts placed: Shelters—Roman-road, Tredegar-road and Old Ford-road areas—C. P. Roberts and Co., £2,046.—First-aid post, Blondin-street—heating installation, Sulzer Bros.; reinforced concrete roof, Caxton Floors, Ltd.

SOUTHGATE.—T.C. recommended for waterproofing of 370 Anderson shelters the tender of Balls and Partners, of Cuffley, at £1,067 12s.

STOKE NEWINGTON.—For proposed construction of 25 communal shelters, B.C. accepted tenders of A. Scott and Sons, Stapleton and Sons and J. Cannon and Sons. Approval of Minister of Home Security at £3,150 received.—For construction of new pitched roof type of surface shelter tender of H. Mills and Sons, Ltd. accepted.—Chief Assistant E. to engage contractor to carry out waterproofing of approximately 100 Anderson shelters at £2 10s. each.—D. West and Sons, of Ilford, entered into contract for waterproofing of 100 Anderson shelters, north of Church-street.

WALTHAMSTOW.—B.E. and S. reported that Regional Technical Officer approved Council's proposals for concreting of 200 steel shelters.—B.E. prepared plans for permanent public shelter in subway under west side of Wadham-road bridge. Further protected work is to be provided at various schools, at £1,710.

WESTMINSTER.—Surface shelters of brick and concrete to be built, Regent-street, between Jermyn-street and Charles II-street; Haymarket, between Panton-street and Suffolk-street; Waterloo-place, between Pall Mall and Carlton House-terrace, for City Council. Plans by J. Rawlinson, E., City Hall. Tender of Norman Wright (Builders), Ltd., Portland House, Portland-road, S.E.25, recommended, at £5,150.

PROVINCIAL.

BILLINGHAM-ON-TEES. — Home Office approved £262 gy U.D.C. for additional temporary accommodation at fire station.—Council to instal electric lighting in wardens' posts.

BIRMINGHAM.—E.C. accepted following: Shelters in school playgrounds:—Birchfield-road, Maddocks and Walford, £925.—Nansen-road, Morris Jacombs and Sons, Ltd., £1,743 13s.—St. George's C.E., Great Russell-street, Charles Twigg (Builders), Ltd., £725.—Corpus Christi, F. N. Adams, Birmingham, £844.—St. Joseph's R.C., H. M. Grant and Co., Ltd., King's Norton, Birmingham, £784 7s. 4d.—Highters Heath, Frank Davis (Builders), Ltd., at £1,490. Protection partly in playgrounds and partly within buildings:—Cromwell-street, W. Sapcote and Sons, £745.—Station-road, Aston, W. B. and F. T. Archer, £719.—Oakley-road, B. Whitehouse and Sons, Ltd., £1,417.—Moseley Grammar, T. Lowe and Sons, Ltd., £1,704.—Yardley Grammar, Isaac Langley, Tyburn, £949. All contractors of Birmingham. Large number of other small contracts placed with Birmingham contractors.

BRIGHOUSE. — T.C. approved first-aid post, Clifton mills, Bailiffe-bridge, and first-aid post and cleansing centre, Victoria-mills, Victoria-road, for T. F. Firth and Sons, Ltd.—T.C. propose shelter at Clifton isolation hospital. Plans by H. A. Sneezum, B.E.

BURNLEY. — T.C. propose communal shelters, each to accommodate 50 persons, in lieu of surface brick shelters at houses.

CROSBY.—Direct Works Dept. of the Corporation are to carry out, at £937, 6 brick and concrete surface shelters, in Crosby-road South and Fort-road, Seaforth. Plans by J. R. Fothergill, B.E. and S.

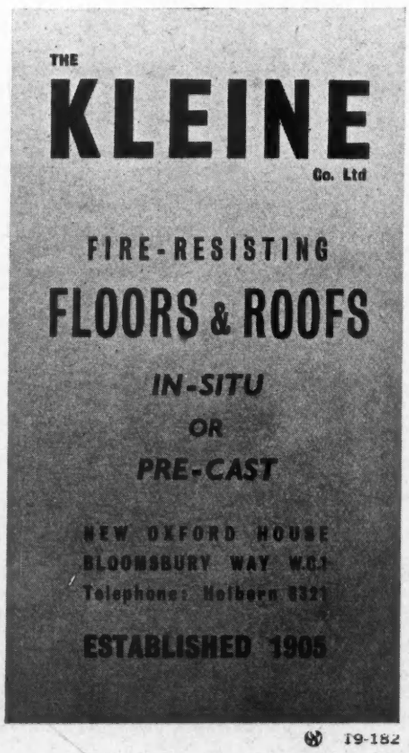
GATESHEAD.—W. Hall (Contractors), Ltd., Derwentwater-road, Gateshead, and J. Clark and Sons, New Seaham, accepted by T.C. for further domestic shelters. Plans by F. H. Patterson, B.E.

GOSPORT.—Replacement of sandbag protection with brickwork at hospital, for Gosport War Memorial Hospital Board. L. M. Field, architect to Board.

HARWICH.—Wm. Griffiths and Co., Ltd., 626, Salisbury House, Finsbury-circus, London, E.C.2, secured contract for 2 public air raid shelters in precast concrete blocks to accommodate 200 persons, for T.C. F. H. French, B.E. and S., prepared plans.

JARROW.—T.C. to build shelters at St. Bede's junior school.

MELTON MOWBRAY.—For (a) four brick shelters, and (b) two precast shelters, U.D.C. placed contracts with W. G. Herbert, King-street, at £568, and C. Butteriss and Son, Snow Hill, at £100, both of Melton Mowbray.



19-182

NEWCASTLE-ON-TYNE. — Further contracts let by City Council for 60 domestic shelters, between; R. Bowey; J. C. Clarkson; Davison, Eason and Harkness; S. F. Davison; A. Gunning and Co.; F. J. Hepple; T. Hutchinson and Co.; J. Lunn and Sons; W. Milne (Newcastle), Ltd.; and A. and J. W. Potts.—The tender of S. Miller, Ltd., accepted for three public shelters in West-parade, and certain domestic shelters, at £1,167. All contractors of Newcastle.—E.C. to build shelters and refuge accommodation at considerable number of schools. No contracts yet placed. Architect, F. Harvey, Education Offices, Northumberland-road.

NEWCASTLE-ON-TYNE.—City Council to apply for M.H. to borrow a further £30,908 for A.R.P. work at schools.—R. Burke, Singleton House, architect for additional shelters and refuge accommodation at Walker R.C. schools, St. Lawrence R.C. schools, St. Dominic's R.C. schools, and St. Theresa's R.C. schools. No contracts let.

NORTHAMPTON.—T.C. propose 14 brick and concrete surface shelters on Highlands estate, Kettering-road. R. A. Winfield, B.S.

ROYTON.—Contracts for semi-sunk and surface shelters, each to accommodate 50 persons, been placed by U.D.C. with H. and J. R. Bradshaw, Hill-lane, Blackley, Manchester, for surface shelters, and Buckley and Roseblade, Shaw-street, Greenfield, near Oldham, for semi-sunk shelters. Plans by E. and S.

SCUNTHORPE.—Lumley and Bray, 1, Northlands-road, Winterton, near Scunthorpe, contractors for shelters for T.C. Plans by W. Farrar, B.E.

SHEFFIELD.—T.C. propose shelters at schools and institutions recently vacated by military and A.R.P. authorities. Cost, £35,705. Plans by W. G. Davies (F.), City Architects.

WALSALL.—Emergency Committee of Corporation proposes additional domestic surface shelters to accommodate 969 persons, at £3,150. M. E. Habershon, B.E. and S., prepared plans.

WEST BROMWICH.—T.C. propose shelter trenches for 600 at Hall Green-road school, surface shelter for 100 at Bratt-street school, and 200 at Lyng school. Plans by E. M. Fillmore, A.R.I.B.A., architect, 8, Newhall-street, Birmingham.

WILLINGTON-ON-QUAY.—Contract for decontamination centre at works of Hood, Haggie and Sons, Ltd., let to Alnwick Foundry Co., Ltd., Alnwick.

SCOTLAND.

GLASGOW.—Following shelters to be erected at schools: At Centre-street, J. Thomson, architect and quantity surveyor, 136, Wellington-street. Contractors: J. MacGlashan and Sons, Ltd., and A. and W. Mossman.—At Wellpark, J. Taylor Thomson and Partner, architects and quantity surveyors, 212, Bath-street. Contractors: J. Green and Co., Ltd.—At Dunard-street, W. J. B. Wright and Kirkwood, architects and quantity surveyors, Charlton House, Blythswood-square. Contractors: R. Gilchrist and Sons, Ltd.—At St. Aloysius Catholic, Lennox and MacMath, architects and quantity surveyors, Commercial Bank of Scotland-buildings, Blythswood-street. Contractors: T. Cooper and Co., Ltd.—At Kennedy-street, Launcelot H. Ross, architect and quantity surveyor, 221, West George-street. Contractors: J. Hill (Builders), Ltd.—Park House school, Austin Laird, architect and quantity surveyor, 55, West Regent-street, Blythswood.—St. Roths school, John MacKissock and Son, architects, Insurance-chambers, Renfield-street.—Albert secondary, W. McNab, architect, 129, Bath-street, Blythswood.—Possil, J. Taylor Thomson and Partner, architects and quantity surveyors, 212, Bath-street, Blythswood. Contractors: Brown, Fraser and Co., Ltd.—St. Mungo's school, Launcelot H. Ross, architect and quantity surveyor, 221, West George-street, Blythswood. Contractors: P. and W. McLellan, Ltd. Shelter plans passed: J. Craigs, Ltd., bakery and restaurant buildings, Union-street, Clarke, Bell and Craigie, architects and quantity surveyors, 227, Bath-street, Blythswood. Contractors: D. McCallum and Co., Ltd.—block of offices, Hope-street, J. Reed, architect and quantity surveyor, 79, West Regent-street, Blythswood. Contractors: J. McLaren and Co., Ltd., Govan. All architects and contractors of Glasgow.

GREENOCK.—Plans prepared for shelters for district of Upper Cornhaddock, by Robert Millar, B.E. and S.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender, unless stated to the contrary. The dates at the head of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained. Abbreviations: (A.) for A.R.I.B.A.; B. of E. for Board of Education; B.C. for Borough Council; B.E. for Borough Engineer; B.S. for Borough Surveyor; C. for Clerk; C.B. for County Borough; C.C. for County Council; C.E. for County Engineer; C.S. for County Surveyor; D.S. for District Surveyor; E. for Engineer; E.C. for Education Committee; (F.) for F.R.I.B.A.; (L.) for L.R.I.B.A.; M.W.B. for Metropolitan Water Board; M.H. for Ministry of Health; M.T. for Ministry of Transport; P.C. for Parish Council; R.D.C. for Rural District Council; S. for Surveyor; T.C. for Town Clerk and Town Council; and U.D.C. for Urban District Council.

BUILDING.

MAY 4.

†**Newcastle-under-Lyme T.C.**—9 100-type and 24 50-type public shelters with brick walls and reinforced concrete roofs. Arthur Cotton, B.S., Nelson-pl. Dep. £2.

MAY 7.

Bromley T.C.—Concrete lining of about 1,000 steel air raid (Anderson) shelters. B.E. Dep. £1.

Chislehurst and Sidcup U.D.C.—Waterproofing Anderson shelters. E. Lawes, E. and S. Dep. £1 1s.

Ipswich C.B.—Decontamination laundry at refuse destructor works. E. McLauchlan, B.S. and Water E. Dep. £2 2s.

Merton and Morden U.D.C.—Shelters at five block of flats. E. and S. Dep. £1.

Morwenstow (Cornwall).—Rebuilding and plumbing at F. Boundy's, Brownspit Farm, Mr. Squance, South Hay Farm, Shebbear, Beaworthy.

MAY 8.

Colne T.C.—Air raid shelters. B.E.

Gloucestershire E.C.—Engineering block at "The Woodlands," The Park, Cheltenham. H. V. Ashley and Winton Newman (FF.), 14, Gray's Inn-sq., London, W.C.1. Dep. £2 2s.

Leamington Spa T.C.—Public shelter in railway arch. J. Sutcliffe, B.E.

Manchester T.C.—Alterations in basement at city police courts, Minshull-st., for air raid shelter. City Architect. Dep. £1 1s.

Stoke Ferry Drainage Commissioners.—Alterations to existing pumphouse and foundations at Fordham Fen, near Downham Market. O. Borer, Consulting E., "Elmhurst," Brooklands-av., Cambridge. Dep. £1 1s.

West Riding C.C.—Adaptation of church hall, Maltby, as first-aid post; adaptation into first-aid post of Miners' welfare hall, Goldthorpe, and adaptation of Corcoran's garage, Tadcaster, as ambulance garage. West Riding Architect, Wakefield.

Wimbledon C.B. — Underground substation. Chief E., Electricity House, Durnsford-rd., S.W.19.

York T.C.—2 above-ground brick shelters, Regent-st. clearance area, adjacent to St. Lawrence's school. Chas. J. Minter, City E. Dep. £1 1s.

MAY 9.

Batley T.C.—24 domestic shelters. B.E., Brunswick-st.

Chatham T.C.—11 surface shelters. R. L. Honey, B.E.

***Wembley T.C.**—Resting and messing accommodation for first-aid personnel at Sherrif's Farm, St. Michael's-av. Borough Treasurer. Dep. £1 1s.

West Bromwich C.B.—Cleansing station, Central police station, High-st. B.S. Dep. £1 1s.

Whiston R.D.C.—Works in connection with new highway depot at rear of Council Offices, Delph-la. Watson Garbutt, E. and S. Dep. £2 2s.

Wolverhampton C.B.—34 precast concrete trench A.R.P. shelters, each for 50 persons. B.E. Dep. £5 5s.

MAY 10.

Aberdeen T.C.—Conversion of existing building to decontamination laundry. T. F. Henderson, City E.

Bristol Corporation.—Reconstruction of No. 1 boiler house roof at Portishead generating station. A. J. Newman, Chief E., Electricity Dept., Colston-av. Dep. £2 2s.

Padiham U.D.C.—5 surface and 1 semi-sunk air raid shelters. S. Dep. £1 1s.

MAY 11.

Belfast T.C.—Boiler-house and extensions to turbine pump and switch-house foundations and superstructure at harbour power station. City Electrical Engineer and Manager, East Bridge-st. Dep. £2 2s.

Dublin T.C.—250 four-roomed houses, Cabra West housing area, section No. 2A. H. G. Simms, Housing Architect, 5, Wellington Quay. Dep. £5 5s.

Gillingham T.C.—2 public air raid shelters at Railway-st. B.S. Dep. £1 1s.

York T.C.—Precast concrete blocks for use in protecting buildings from blast and splinters. C. J. Minter, City E. Dep. £1 1s.

MAY 13.

Castleford U.D.C.—Domestic rair raid shelters. E. and S. Dep. £2 2s.

Cork Corporation.—210 houses at Greenmount. J. R. Boyd Barrett (A.), 61, South Mall, Cork. Dep. £2 2s.

Hucknall U.D.C.—Domestic surface air raid shelters. H. M. Aitchison. S.

Little Lever U.D.C.—Domestic surface shelters. S.

MAY 14.

Birkenhead C.B.—Alterations and additions to offices, central depot, Cleveland-st. B.S. Dep. £1 1s.

Sheffield T.C.—Highway and A.R.P. depots at Northfield-rd. and Prince of Wales-rd. W. Geo. Davies (F.), City Architect. Dep. £2.

York T.C.—Internal structural alterations to administrative block of fever hospital. Chas. J. Minter, City E.

MAY 15.

Carshalton U.D.C. — Army-type hut, Fellowes-rd. depot. R. S. Davey, E. and S.

North Cotswold R.D.C.—36 houses. J. E. Busfield, S., Council Offices, Moreton-in-Marsh, Glos. Dep. £2 2s.

Rochdale C.B.—3 bus shelters. B.S.

Sheffield T.C. — Highway and A.R.P. depots at Northfield-rd. and Prince of Wales-rd. W. G. Davies, City Architect. Dep. £2.

MAY 16.

Bradford T.C. — Transforming station building at Low Moor Iron-works. Thomas Roles, City Electrical Engineer and Manager, 27, Bolton-rd. Dep. £1 1s.

***Bristol Corporation.**—R.C. water tank, fire protection screens, and first-aid and decontamination depot, Portishead generating station. A. J. Newman, Chief E., Electricity Dept., Colston-av. Dep. £2 2s.

***Bristol Corporation.** — 11 sub-stations. A. J. Newman, Chief E. and General Manager, Electricity Dept., Colston-av. Dep. £2 2s.

***Erith T.C.**—Fire sub-station, The Pantiles, Bexleyheath. J. H. Clayton, B.E. and S.

MAY 17.

Chepping Wycombe T.C. — Trench-type shelters, precast concrete units. J. A. Parkinson, B.S.

Plymouth T.C.—2 cooling water screening chambers in reinforced concrete, Prince Rock generating station. J. Paton Watson, City E. and S. Dep. £2 2s.

MAY 18.

***Beckenham T.C.**—Buildings for A.R.P. services at Hawes Down school, West Wickham. J. Dove, B.E. and S. Dep. £2.

Rainford U.D.C.—5 communal domestic surface shelters. S.

MAY 20.

Letchworth U.D.C.—A.R.P. report and control headquarters, Gernon-rd. G. Brown, C. Dep. £3.

MAY 21.

Hitchin U.D.C.—Squad refuge and decontamination centre at Bury Mead-rd. A. King, Acting S., Old Town Hall. Dep. £2 2s.

JUNE 10.

***Luton T.C.**—Contract No. 6, buildings for sewage purification work, East Hyde. J. D. and D. M. Watson, engineers, 3, Central-bldgs., Westminster, S.W.1. Dep. £5 5s.

PAINTING, ELECTRIC LIGHTING, HEATING, &c.

MAY 7.

Bilston T.C.—Internal redecorations and external painting, 78 houses, Lunt estate. W. G. Lofthouse (A.), Town Hall.

Manchester E.C.—Painting, decorating and limewashing various schools. Surveyor's Dept., Education Offices, Deansgate.

MAY 8.

Birkenhead C.B. — Cleaning, painting, varnishing, etc., exterior of Institution, Church-rd. B.S.

Burnley C.B.—External painting work at Abel-st., Burnley Wood and Todmorden-rd. schools. B.E. and S. Dep. 10s. 6d.

Colwyn Bay T.C.—External painting of 18 houses, Station-rd., Mochdre. N. S. Jeffrey, B.E. and S.

Kirkcaldy T.C.—Outside painter work at Strathkinnes-rd. housing scheme. B.E.

Winchester T.C.—External painting of fire station, North Walls. City E.

MAY 9.

Bingham R.D.C.—Painting external wood and ironwork of 122 houses. C. W. Kendrick, S. Dep. 10s.

Coulsdon and Purley U.D.C.—External painting work at various council housing schemes. S. Dep. £1 1s.

MAY 10.

Birkenhead C.B.—Wiring of houses. B. Electrical E., Craven-st. Dep. £1.

Brymbo.—Painting Bryn Seion Chapel.—Miss O. Roberts, Post Office, Brynteg, Wrexham.

Leicestershire E.C. — Redecoration of schools. W. A. Brockington, Director of Education, County Education Office, Grey Friars, Leicester.

Stourbridge T.C.—Exterior repairs, painting and decorating of 501 houses on various estates. G. N. Maynard, B.S.

MAY 11.

Clogherney.—Renovations to Clogherney Presbyterian church. Robinson and Davidson, architects, 1, Richmond-st., Londonderry.

MAY 13.

Colwyn Bay T.C.—Painting of iron railings, railway embankment. N. S. Jeffrey, B.E. and S.

Dunstable T.C.—Interior decoration of 40 houses, Garden-rd. estate; 18 houses, West-st. estate, and 18 houses, Watling-st. estate. G. Ashton, B.E. and S. Dep. £1 1s.

Edmonton T.C.—Heating of central depot by low-pressure hot-water system with unit heaters. E. J. Willis, B.E. and S.

Wycombe R.D.C.—Exterior and interior decoration of council houses. S. W. Birch, 17, High-st., High Wycombe.

MAY 15.

Sturminster R.D.C.—Reconstruction and reconditioning of 5 cottages, Mill-la., Marnhull. C. W. Pike (F.), 39, High West-st., Dorchester. Dep. £1 1s.

FEDERATED EMPLOYERS'
Insurance Association Ltd.
(non-tariff)
Head Office:
8, King St., Manchester
London Office:
23, Lawrence Lane, Cheapside, London, E.C.2
All Classes of Insurance Transacted
(Except Life and Marine)
The Leading Office for
Contract Guarantee Bonds

West Riding C.C.—Painting police buildings. Architect, County Hall, Wakefield.

MAY 17.

***London (H.M.O.W.).**—External painting Central telegraph office, St. Martins-le-Grand, E.C.1. Room 424, H.M.O.W., Abell House, John Islip-st., S.W.1. Dep. £1.

MAY 18.

Holywell U.D.C.—External painting and repairs to council houses. D. L. Morgans, surveyor and architect, Town Hall. Dep. £3 3s.

Keighley T.C.—Painting work in parks and cemeteries. J. Bailey, Parks Superintendent, Registrar's Office, Utley Cemetery.

Southport C.B.—Painting elementary and secondary schools. J. W. Knowles, Secretary to E.C., 1, Eastbank-st.

Swansea University College. — Painting work. Edwin Drew, Registrar, Singleton Park.

MAY 20.

Bangor T.C.—Painting and other renovation work to 293 houses, isolation hospital, Siliwen bath structures, fencing and Pier house. B. Price Davies (F.), City S. Dep. £2 2s.

MAY 23.

North Bucks Joint Hospital Board.—External redecoration and small repairs at Grove isolation hospital, near Linslade. H. A. Rolls (A.), 15, Bridge-st., Leighton Buzzard.

NO DATE.

Southam R.D.C.—Painting, redecorating and minor repairs to 68 houses. Quick and Lee, architects, 11, Waterloo-pl.

MATERIALS, &c.

The materials for which tenders are invited normally include one or several of the following :—asphalt, bricks, brooms, building lime, cast-iron pipes, cement, stoneware pipes, granite chippings, granite kerbs, gravel, gulleys, lime, manhole covers, painters' materials, plumbers' materials, road stone, slates, sand, stone, tar, tarslag and bituminous macadam, timber, and whinstone screenings. Readers should obtain full particulars by personal inquiry.

MAY 7.

Billinge U.D.C.—S.

MAY 8.

Gloucester T.C.—C. J. Scudamore, City S., 21, Eastgate-st.

MAY 9.

Durham C.C.—Sand and gravel. W. J. Merritt, C.E. and S., 43, Old Elvet, Durham.

MAY 11.

Horsforth U.D.C.—Jas. E. Aldersley, E. and S.

Surbiton T.C.—B.E. and S.

Worsley U.D.C.—L. T. Broome, E. and S.

ENGINEERING, IRON AND STEEL.

MAY 8.

West Dean R.D.C.—Contract No. 1 for West Dean water supply. Willcox, Raikes and Marshall, engineers, 33, Great Charles-st., Birmingham, 3. Dep. £5 5s.

MAY 10.

Calne and Chippenham R.D.C.—Laying of approx. 800 lin. yds of glazed stoneware sewers 9-in. in dia., together with manholes and all auxiliary works in parish of Colerne. Parker, Pearson and Ross Hooper, engineers, Dallas-chams., Chippenham. Dep. £1.

Horncastle R.D.C.—Water supply works between Revesby, Coningsby and Tattershall. Engineer's Office, 6, Bridge-st., Boston, Lincs. Dep. £2 2s.

MAY 11.

Saffron Walden R.D.C.—Contracts Nos. 9-12 for regional water schemes. Sands and Walker, consulting engineers, Milton-chams., Nottingham. Dep. £2 2s.

St. Just U.D.C.—For Wheal Hearle water scheme. G. H. Ivory and Partners, consulting engineers, South Devon-chams., Millbay Station, Plymouth.

MAY 14.

Clacton U.D.C.—33 groynes formed of reinforced concrete and timber piles and reinforced concrete panels, together with timber wallings, struts and anchor piles, Holland-on-Sea. W. Aiston, S. Dep. £1 1s.

MAY 15.

Manchester T.C.—Sewage works and sewerage at Barton airport. City E. Dep. £2 2s.

MAY 17.

Wokingham R.D.C.—For High Knowl reservoir, hydrostat chamber, rising and leading mains. A. P. I. Cotterell and Sons, engineers, 54, Victoria-st., Westminster, S.W.1. Dep. £3 3s.

MAY 20.

Wokingham R.D.C.—For contract No. 4, for main drainage work, Erleigh Court and Sonning area. H. Humphreys and Sons, consulting engineers, 17, Victoria-st., London, S.W.1. Dep. £10 10s.

MAY 21.

Northampton R.D.C.—Provision and laying of approx. 3,700 yds. 4-in. and 3-in. dia. spun-iron mains, together with valves, hydrants and other appurtenant fittings, for Wootton water supply. R. J. Miller, S., 1, Spencer-prde., Northampton. Dep. £3 3s.

MAY 22.

Herne Bay U.D.C.—Sea defence works, Hampton. B. J. Wormleighton, E. and S. Dep. £1 1s.

ROAD, SEWERAGE AND WATER WORKS.

MAY 7.

Enniskillen R.D.C.—Laying water main at Tempo. F. G. Townsend, Workhouse.

Melford R.D.C.—Standpipes and supply and laying of lead service connections and appurtenant works from cast-iron water mains to boundary of properties as required. Sands and Walker, consulting engineers, Milton-chams., Nottingham.

MAY 8.

Chadderton U.D.C. — Surface dressing various roads. F. W. Pexton, E. and S.

West Dean R.D.C.—Tarmacadam service roadways and footpaths, Sunny Bank housing estate, Coleford. C. W. D. Ward, S. and E. Dep. £1 1s.

Wolverhampton C.B.—Supply and laying of approx. 17,060 sq. yds. of single-coat asphalt road surfacing. H. B. Robinson. B.E. Dep. £2 2s.

MAY 9.

Birkenhead C.B.—Taking up, cleaning and cutting tram rails, and reinstatement of track. B.S.

MAY 10.

Bedford R.D.C.—Supply and laying 3,900 yds. spun-iron water mains, 3-in. dia., etc. F. Lindley, Water E., 10, St. Mary's-st. Dep. £2 2s.

Bridlington T.C. — Reinforced concrete carriageway and other appurtenant works in Princess-st. B.E. and S. Dep. £2 2s.

Shardlow R.D.C.—660 yds. of 6-in. and 315 yds. of 4-in. spun-iron pipes as water main, and other incidental works, at Melbourne. Elliott and Brown, consulting engineers, Stanley House, Pelham-rd., Nottingham. Dep. £3 3s.

MAY 11.

Neath T.C.—Road and footpath surfaces on Brynhyfryd housing site, Briton Ferry. H. Alex. Clarke, B.E.

Onchan.—Sewer extension in Whitebridge-rd. area, for Village Commissioners. T. H. Kennough, architect, 10, Athol-st., Douglas, I. of M.

Witney R.D.C.—Extension of water mains, contract No. 2. Howard Humphreys and Sons, consulting engineers, 17, Victoria-st., Westminster, S.W.1. Dep. £1 1s.

NO DATE.

Longridge U.D.C.—Chemically cleansing and restoring to watertight condition 1,200 ft. run of 9-in. glazed sewer in Chapel Hill. N. J. Craven, C.

W. C. YOUNGMAN LTD
WANDSWORTH WORKS
WANDSWORTH ROAD
LONDON S.W.8

Public Appointments.

MAY 10.

***Islington B.C.**—Temporary Clerk of Works, for A.R.P. work. C. N. Cowney, B.E. and S.

Sutton and Cheam T.C. — Temporary architectural assistant. N. H. Michell, B.S.

***West Suffolk C.C.**—Technical Assistant in County Architect's Dept. for A.R.P. works. L. G. H. Munsey, C., Bury St. Edmund's.

MAY 13.

***Bournemouth C.B.**—Quantity Surveying Assistant; Junior Quantity Surveying Assistant; and 2 Architectural Assistants. W. L. Clowes, B.E. and Architect.

***Bradford T.C.**—Temporary Clerk of Works. N. L. Fleming, T.C.

NO DATE.

***Air Ministry.**—Probationer Clerk of Works. Under-Secretary of State, Adastral House, Kingsway, W.C.2.

***War Office.**—Surveyor's Clerk, Colchester area. C.R.E., Colchester, Flagstaff-rd., Colchester.

NEW BUILDINGS IN LONDON

BANSTEAD.—Fire Station.—A new fire brigade and ambulance headquarters is to be erected in Brighton-road for the U.D.C. Messrs. W. A. Pite, Son and Fairweather, 16, Market-square, Westerham, are the architects. The contract has been placed provisionally with Messrs. Bowns Estates, Ltd., The Drive, Brighton-road, Banstead, at £18,268.

BARKING. — Building. — The following plans have been approved by the T.C.: Additions, 75, Longbridge-road, for the London Co-operative Society, Ltd.; addition to factory in River-road, for Messrs. A. Ibbetson and Co.; addition to factory in River-road, for Messrs. Isonzo Candy Co., and addition to factory in Glenny-road, for Messrs. W. H. Sugden and Co.

BARKING.—Centres.—The T.C. Works Department are to carry out the remainder of the Eastbury and Erkenwald schools gymnasia and dining centres contract, at a total cost of £3,300.

KINGSTON.—Rebuilding.—The T.C. has placed a contract with Messrs. F. and H. F. Higgs, Ltd., Station-works, Hinton-road, S.E.24, for the switch-house and the rebuilding of the existing turbine room, at £5,592.

SLOUGH.—Alterations.—Are to be made to factory premises at Trading Estate, for International Alloys, Ltd., Buckingham-avenue, Trading Estate. The contract has been placed with Messrs. H. Tyson Chambers, Ltd., Bedford-avenue, Trading Estate, Slough.

STRATFORD.—Factory.—Is to be built at 100, Carpenters-road, E.15, for Messrs. A. Boake, Roberts and Co., Ltd., Carpenters-road, E.15. Messrs. Ley, Colbeck and Partners, Palmerston House, Bishopsgate, E.C.2, are the architects.

TOTTENHAM.—Building.—The T.C. has passed the following plans: Messrs. Cronite Foundry Co., Ltd., additions to factory and conversion of houses to offices, in Lawrence-road; Messrs. Upsons, Ltd., alterations and extensions, 470-2, High-road; Messrs. C. Hammerton and Co., Ltd., brewers, alterations, 144, Park-lane; Messrs. A. and W. Flatau and Co., Ltd., factory extension and rebuilding, The Hale, adjoining Ferry-lane and Broad-lane, and Messrs. H. and S. Solomons, store building, adjoining Brantwood-road, rear of factory, Willoughby-lane.

WALTHAMSTOW. — Factory. — The T.C. has passed plans for extension to the factory, Fingal-works, Staffa-road. Messrs. Wallis, Gilbert and Partners, 15, Elizabeth-street, S.W.1, are the architects.

WALTHAMSTOW.—Alterations.— Messrs. Stewart and Hendry, 90, Fenchurch-street, E.C.3, are the architects for alterations to the "Duke's Head" public-house, in Wood-street. Plans have been approved by the T.C.

WALTHAMSTOW.—Building.—The T.C. has approved applications for extension to 43, Tower Hamlets-road submitted by Messrs. F. J. Mortimer and Sons, Ltd., builders, 12, Palmerston-road, E.17, and for extension to the factory, Forest-road, from plans by Mr. C. W. Hodgson, 203, Hoe-street, E.17.

CURRENT AND PROPOSED BUILDING WORK*

Bedworth.—T.C. received sanction of M.H. for completion of 100 houses on York-bldgs. estate. Cost, £30,238.

Bermondsey.—B.C. approved drainage plans: F. Green & Sons, 35, Union-st., Borough High-st., S.E.1, for McClermont & Donner, 27, St. Thomas-st., alterations, 27, St. Thomas-st.; C. J. Johnson, 47, Aspinden-rd., conversion of premises into factory, 3, Clarehall-pl.

Bolton.—T.C. to seek £33,359 loan sanction for reconstruction of refuse destructor works, Wellington-yard.

Burton-on-Trent.—Licensing Justices confirmed provisional removal of licence from "Bear Inn," Horninglow-st., to new hotel to be erected in Short-street, Stapenhill, for Marston, Thompson & Evershed, Ltd., The Brewery, Shobnall-rd. Plans prepared in architect's department.

Caernarvon.—Committee of the "Urdd" Movement (Welsh Service of Youth, R. E. Griffith, chief organiser) secured premises at 3 and 5, Church-st., for adaptation to own use. R. Pierce (F.), architect, Frondeg, West Twthill.

Chester.—T.C. recommend application to M.H for sanction to borrowing £2,936 for completion of houses on Lache estate under the third contract, and £4,953 for completion of houses under fourth contract.—Tenders recommended to be invited where necessary for complete internal decoration of Handbridge St. Mary's, Hunter-st., St. Thomas's and Lache schools; partial decoration and washing down of Cherry-gr., Egerton-st. and Love-st. schools; and external decoration of Victoria-rd. school.—Plans passed: Extension, Boughton-wks., Chester Engineering Co. (1918), Ltd.

Coventry.—E.C. propose completion of plans for junior mixed and infants' department to accommodate 500 children, Canley school site. D. E. E. Gibson (A.), City Architect, 2a, Warwick-rd.—City Architect prepared plans for structural alterations to Canley open-air school, at £320.—Methodist Union Committee (Rev. F. G. Morris superintendent minister, of Central Circuit) proposing church at Coundon and extensions to Sunday schools at Lime Tree Park.

Deptford.—B.C. approved: J. Stone and Co., Ltd., Deptford, S.E.8, one-storey building, rear building next to Arklow-rd.

Durham.—Subject to approval of Home Office, C.C. to proceed with £5,000 plan for reconstructing Assize Courts. Plans by W. J. Merrett, C.S., 43, Old Elvet, Durham.—C.S., 43, Old Elvet, Durham, prepared plan for semi-permanent building, rear of P.A.C. offices, to provide additional office accommodation. Cost, £2,000.

Eccles.—E.C. applying to B. of E. for sanction to proceed with extensions proposed at open-air school.

Finsbury.—B.C. recommend invitation of tenders for external painting work at Grimaldi House and Margery-st. estate; and carrying out by Council's painting staff augmented by casual labour, other painting works.—Drainage plans passed: Bovril's factory, Banner-st., Gee, Walker & Slater, Ltd., 3, Fitzmaurice-pl., W.1.

Hammersmith.—B.C. recommend B.E. carry out painting work at various buildings by direct labour.—Painting work, to cost £1,580, to be carried out at Lime-gr. baths.—Building plans passed: G. P. Murfitt, Ltd., 3-15, Norland-rd., building on west side Norland-yard, W.11.—Drainage plans passed: Sunya House, Scrubs-la., for Bee Bee Biscuits, Ltd. (Holman & Goodrham, 6, King's Bench-walk, E.C.4, architects); 167, Hammersmith-rd., for J. Lyons & Co., Ltd., Cadby Hall, W.14.

Jarrow-on-Tyne.—T.C. to sell land, Beech-st., to North-Eastern Electric Supply Co., Ltd., Carliol House, Newcastle-on-Tyne, for station extensions.

Kingston.—B.S. to redecorate externally 86 houses in Porchester-rd.

Leicester.—Canon J. Casson, The Rectory, Croft, Sutton Elms, and Parochial Church Council of Croft Parish Church propose going forward with church hall on a site adjacent to church schools.

Liverpool.—Rev. J. McCarthy, P.P., Church of Holy Trinity, Garston, proposes parish hall, Speke estate, junction of Lovell-rd. and Stapleton-av. Cost, £5,000. E. Prestwich & Sons (FF.), architects, Bradshawgate-chambs., Leigh.—T.C. approved plans: Extension to works, Dryden-rd., for Automatic Telephone & Electric Co., Ltd., Strowger Works, Edge-ln. Dudley Nisbett (L.), architect, 81, Dale-st.

London.—L.C.C. recommend borrowings by following B.C.s:—Bermondsey, £12,508 for housing; and Kensington, £5,290 for A.R.P. work.—Council sanctioned £1,200 for repairs to reinforced concrete roof of lower channels of No. 1 set of aeration channels of additional purification works, Northern outfall works.—£800, rebuilding one of walls of river water settling pond No. 2, Southern outfall works.—Painting, etc., works, 1940-41—£10,120.—Fencing round allotments, £1,700.

Long Melford.—Factory at Glemsford, for Hasler & Co., Ltd., Dunmow. A. E. Wiseman (A.), architect, 10, Duke-st., Chelmsford.

Macclesfield.—Cordingley & McIntyre (FF.), architects, 195, Oxford-rd., Manchester, preparing plans for development of Collar House estate, Poynton.

Middlesbrough.—Kitching and Co., 21, Albert-rd., prepared plans for additions to "Coronation Hotel," Acklam-rd. South, for Inde, Coope and Allsopp.—Sparks & Son are to carry out additions in Linthorpe-rd. to plans by H. C. Garbutt, 18, Albert-rd.—Plans approved for electric sub-station, Acklam-rd. South, for Corporation. No contracts let. Plans by H. Haigh, B. Electrical E.

Middlesex.—C.C. recommend garage at Plumridge farm, Enfield Chase, at £100, and concreting of farmyard and loose boxes at farm, at £300.—Cowhouse, etc., at Whiteheath farm, Harefield, at £2,311.—Reconstruction of defective floor of gymnasium at Harrow Weald County School, at £295.—Committee recommends improvement of Bittacy Hill, Hendon, in connection with widening of L. & N.E. Rly. bridge, at £14,854.—External redecoration of seven schools, at £1,650, and internal redecoration of Enfield County School and internal and external redecoration of remaining old portions of Enfield Grammar School, at £900.—£100 in connection with fencing at Holly Hill Farm, Enfield Chase.—Premises of Northcotts (North London) Approved School, 115, High-st., Walthamstow, to be used for purposes of temporary remand home for boys. County Architect to carry out adaptations, at £250, and provide air raid protection, at £300.

Poplar.—B.C. recommend application to Electricity Commissioners for sanction to borrowing of £38,674 for various works.—B.C. approved plans submitted by L. & N.E. Rly. Co. in connection with reconstruction of company's bridge and widening of Old Ford-rd. by Wrexham-rd.

Ransom.—Additions to Ransom Sanatorium, near Mansfield, to be undertaken by Notts C.C. Plans prepared by County Architect, E. W. Roberts, approved.

Reading.—Extensions, factory at Woodley. Guy Morgan (F.), architect, 41, Lowndes-close, London, S.W.1.

Sheffield.—E.C. seeking sanction of B. of E. for senior mixed department school for 520 at Meynell-rd., two junior mixed and two infants' departments, each for 755, at Fox Hill and Lindsay-rd.

Slough.—T.C. approved: Johns' Transport, Ltd., pair of offices, off Cippenham-la.

Southport.—T.C. proposes setting back of bandstand and enlargement of open-air café at Floral-gdns.

Stafford.—R.D.C. has received sanction for 25 to 50 houses for agricultural workers. J. W. Cook, S., Council Offices, St. Mary's-grove.

Stockton-on-Tees.—Kitching & Co., 21, Albert-rd., Middlesbrough, prepared plans for alterations to "Royal Hotel," High-st., for North-Eastern Breweries, Ltd.

Stourbridge.—Worcestershire E.C. propose school kitchen, Grange county senior school. Henry Rowe & Son, architects, 38, Foregate-st., Worcester.

Sunderland. — Plan for alterations to "Friendly Tavern," for Jeffrey & Co., to proceed. Contracts will be let shortly. Architects, W. & T. R. Milburn, 17, Fawcett-st.

Swindon.—Factory building. Guy Morgan (F.), architect, 41, Lowndes-close, London, S.W.1. Quantities by C. E. Ball & Partners, Dilke House, Malet-st., London, W.C.1.

Wandsworth.—B.C recommend: Addition at St. Thomas's church, West Hill; six houses, Princes-way and Victoria-dr., Southfield; additions to K.L.G. Works, Roehampton-vale, Putney; paint-spraying shop within garage at 11-31, Point Pleasant, Southfield.

West Lancashire.—R.D.C. propose fire station, Old Racecourse-rd., Maghull. R. Rosbotham, architect, Council Offices, 52, Derby-st., Ormskirk.

West Riding.—B. of E. approved completion of ten schools now in course of construction by E.C.

Westminster.—City Council recommend repairs and decorations at Grosvenor housing estate, Schomberg House and Jessel House extension, Regency-st.-dwellings, Admiral House, Walden House, Ebury Bridge estate and Ebury Bridge estate extension, at £9,553 10s. City E. inviting tenders.—£454 10s. recommended for alterations at Fanum House, Leicester-sq.

The late Col. Whitehead.

The death is announced of Lt.-Col. Whitehead, chairman and managing director of Messrs. L. & W. Whitehead, Ltd., building contractors, 169, Clapham-road, S.W.9, who passed away on April 28.

---

* See also List of Contracts Open.

*** **In these lists every care is taken to ensure that information given is accurate and up to date, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced.**

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1940

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors]

	Crafts-men.	Lab-ourers.
Aberavon	1/8½	1/3¾
Aberdare	1/8½	1/3¾
Abergavenny	1/8½	1/3¾
Abingdon	1/7	1/2½
Accrington	1/8½	1/3¾
Aldeburgh	1/5	1/1
Aldershot	1/7	1/2½
Alfreton	1/8½	1/3¾
Alnwick	1/8	1/3¼
Altrincham	1/8½	1/3¾
Amble	1/8	1/3¼
Amersham	1/7	1/2½
Ammanford	1/8½	1/3¾
Andover	1/6½	1/2¼
Ardingley	1/6½	1/2¼
Arundel	1/6½	1/2¼
Ascot	1/6½	1/2¼
Ashby-de-la-Zouch	1/8½	1/3¾
Ashford (Kent)	1/6½	1/2¼
Ashford (Middlesex)	1/8½	1/3¾
Ashington	1/8	1/3¼
Ashtead	1/8½	1/3¾
Ashton-under-Lyne	1/8½	1/3¾
Aylesbury	1/6½	1/2¼
Aylsham	1/5½	1/1½
Bagshot	1/6½	1/2¼
Banbury	1/6½	1/2¼
Barnsley	1/8½	1/3¾
Barnstaple	1/6½	1/2¼
Barrow-in-Furness	1/8½	1/3¾
Barry	1/8½	1/3¾
Basingstoke	1/6½	1/2¼
Bath	1/8	1/3½
Batley	1/8½	1/3¾
Beaconsfield	1/7	1/2½
Beccles	1/5	1/1
Bedford	1/8	1/3½
Berkhamsted	1/6½	1/2¼
Berwick	1/8	1/3½
Beverley	1/8½	1/3¾
Bexhill-on-Sea	1/7	1/2½
Bideford	1/6½	1/2¼
Biggleswade	1/6½	1/2¼
Billericay	1/6	1/1¾
Birchington	1/6½	1/2¼
Birkenhead	‡§1/10½	¶
Birmingham†	1/8½	1/3¾
Bishop Auckland	1/8½	1/3¾
Bishops Stortford	1/7½	1/3
Blackburn	1/8½	1/3¾
Blackpool	1/8½	1/3¾
Blyth	1/8½	1/3¾
Bognor Regis	1/6½	1/2¼
Bolton	1/8½	1/3¾
Bournemouth	1/7½	1/3
Bracknell	1/6½	1/2¼
Bradford	1/8½	1/3¾
Bradford-on-Avon	1/5½	1/1½
Braintree	1/6½	1/2¼
Brentwood	1/8	1/3½
Bridgwater	1/7	1/2½
Bridlington	1/8	1/3¼
Brighouse	1/8½	1/3¾
Brighton	1/7½	1/3
Bristol	1/8½	1/3¾
Broadstairs	1/6½	1/2¼
Bromsgrove	1/8	1/3¼
Buckley	1/8½	1/3¾
Bungay	1/4½	1/0½
Burnham-on-Crouch	1/5	1/1
Burnley	1/8½	1/3¾
Burslem	1/8½	1/3¾
Burton-on-Trent	1/8½	1/3¾
Bury	1/8½	1/3¾
Bury St. Edmunds	1/6	1/1½
Buxton	1/8	1/3½
Byfleet	1/7	1/2½
Cambridge	1/8½	1/3¾
Canterbury	1/6½	1/2¼
Cardiff	1/8½	1/3¾
Carlisle	1/8½	1/3¾
Carnforth	1/8½	1/3¾
Castleford	1/8½	1/3¾
Caterham	1/8½	1/3¾
Chard	1/5½	1/1½
Chatham	1/7½	1/3
Chelmsford	1/8	1/3½
Cheltenham	1/7½	1/3
Chepstow	1/8	1/3½
Chertsey	1/7½	1/3
Chester	1/8½	1/3¾
Chesterfield	1/8½	1/3¾
Chichester	1/6½	1/2¼
Chorley	1/8½	1/3¾
Cirencester	1/6	1/1¾
Clacton	1/6½	1/2¼
Cleveleys	1/8½	1/3¾
Clitheroe	1/8½	1/3¾
Cobham (Surrey)	1/7½	1/3
Colchester	1/8	1/3½
Colwyn Bay	1/7½	1/3
Congleton	1/8	1/3½
Coventry	1/8½	1/3¾
Cranbrook	1/6½	1/2¼
Cranleigh	1/6½	1/2¼
Crawley	1/6½	1/2¼
Crewe	1/8	1/3½
Cromer	1/5½	1/1½
Crowborough	1/6½	1/2¼
Cuckfield	1/6½	1/2¼
Darlington	1/8½	1/3¾
Darwen	1/8½	1/3¾
Daventry	1/7	1/2½
Deal	1/6½	1/2¼
Denbigh	1/7½	1/3
Derby	1/8½	1/3¾
Devizes	1/5½	1/1½
Dewsbury	1/8½	1/3¾
Didcot	1/6½	1/2¼
Diss	1/5	1/1
Doncaster	1/8½	1/3¾
Dorchester	1/6	1/1¾
Dorking	1/7	1/2½
Dover	1/6½	1/2¼
Dovercourt	1/6½	1/2¼
Driffield	1/7	1/2½
Droitwich	1/8	1/3½
Dudley	1/8½	1/3¾
Dunstable	1/7	1/2½
Durham City	1/8½	1/3¾
Eastbourne	1/7½	1/3
E. Glam. (Mon. Val.)	1/8½	1/3¾
East Grinstead	1/6½	1/2¼
Edenbridge	1/6½	1/2¼
Ely	1/5½	1/1½
Epping	1/8½	1/3¾
Exeter	1/8	1/3½
Exmouth	1/7	1/2½
Fakenham	1/5½	1/1½
Falmouth	1/7	1/2½
Fareham	1/7½	1/3
Faversham	1/6½	1/2¼
Felixstowe	1/7½	1/3
Filey	1/7	1/2½
Fleetwood	1/8½	1/3¾
Flint	1/8½	1/3¾
Folkestone	1/6½	1/2¼
Frinton-on-Sea	1/6½	1/2¼
Frome	1/5½	1/1½
Gainsborough	1/7½	1/3
Gateshead	1/8½	1/3¾
Gillingham (Kent)	1/7½	1/3
Glossop	1/8½	1/3¾
Gloucester	1/8	1/3½
Godalming	1/6½	1/2¼
Goole	1/8½	1/3¾
Gosport	1/8	1/3½
Grantham	1/7½	1/3
Gravesend	1/8	1/3½
Great Yarmouth	1/6½	1/2¼
Grimsby	1/8½	1/3¾
Guildford	1/6½	1/2¼
Guilsborough	1/7	1/2½
Halifax	1/8½	1/3¾
Hanley	1/8½	1/3¾
Harpenden	1/7½	1/3
Harrogate	1/8½	1/3¾
Hartlepools	1/8½	1/3¾
Harwich	1/6½	1/2¼
Haslemere	1/6½	1/2¼
Hastings	1/6½	1/2¼
Hatfield	1/8	1/3¼
Haywards Heath	1/6½	1/2¼
Hednesford	1/8	1/3¼
Hemel Hempstead	1/7½	1/3
Henley-on-Thames	1/6½	1/2¼
Hereford	1/6½	1/2¼
Herne Bay	1/6½	1/2¼
Hertford	1/8	1/3½
Heysham	1/8½	1/3¾
Hitchin	1/7½	1/3
Hoddesdon	1/8	1/3½
Holt (Norfolk)	1/5	1/1
Horley	1/6½	1/2¼
Horsham	1/6½	1/2¼
Horwich	1/8½	1/3¾
Huddersfield	1/8½	1/3¾
Hull	1/8½	•1/3¾
Hunstanton	1/5½	1/1½
Huntingdon	1/6	1/1¾
Ilfracombe	1/6½	1/2¼
Ingatestone	1/7	1/2½
Ipswich	1/8	1/3½
Isle of Thanet	1/6½	1/2¼
Isle of Wight	1/6	1/1¾
Keighley	1/8½	1/3¾
Kenilworth	1/8½	1/3¾
Kettering	1/8½	1/3¾
Kidderminster	1/8	1/3½
King's Lynn	1/6½	1/2¼
Kirkham	1/8½	1/3¾
Knowle	1/8	1/3½
Lancaster	1/8½	1/3¾
Leamington	1/8½	1/3¾
Leatherhead	1/7½	1/3
Leeds	1/8½	1/3¾
Leicester	1/8½	1/3¾
Leighton Buzzard	1/5½	1/1½
Letchworth	1/7½	1/3
Lewes	1/6½	1/2¼
Lichfield	1/7½	1/3
Lincoln	1/8½	1/3¾
Littlehampton	1/6½	1/2¼
Liverpool	‡§1/10½	¶
Llandudno	1/7½	1/3
Llanelly	1/8½	1/3¾
London—		
12m. radius	1/10•	1/4¾
12-15 m. radius	1/9½•	1/4¾
Long Eaton	1/8½	1/3¾
Longton	1/8½	1/3¾
Loughborough	1/8½	1/3¾
Louth	1/7	1/2½
Lowestoft	1/6½	1/2¼
Luton	1/8	1/3½
Macclesfield	1/8	1/3½
Maidenhead	1/7½	1/3
Maidstone	1/7	1/2½
Malvern	1/7	1/2½
Manchester	1/8½	1/3¾
Manningtree	1/5½	1/1½
Mansfield	1/8½	1/3¾
March	1/5½	1/1½
Margate	1/6½	1/2¼
Market Harborough	1/7½	1/3
Matlock	1/7	1/2½
Melton Constable	1/5	1/1
Melton Mowbray	1/7½	1/3
Merthyr	1/8½	1/3¾
Middlesbrough	1/8½	1/3¾
Middleton	1/8½	1/3¾
Middlewich	1/8	1/3½
Milford Haven	1/7	1/2½
Morecambe	1/8½	1/3¾
Morley	1/8½	1/3¾
Mundesley	1/5½	1/1½
Nantwich	1/8	1/3½
Nelson	1/8½	1/3¾
Newark-on-Trent	1/8	1/3½
Newbury	1/6½	1/2¼
Newcastle-on-Tyne	1/8½	1/3¾
Newcastle-u.-Lyme	1/8½	1/3¾
New Forest	1/6½	1/2¼
Newmarket	1/6½	1/2¼
Newport, Mon.	1/8½	1/3¾
Newport Pagnell	1/6½	1/2¼
Northampton	1/8½	1/3¾
Norwich	1/8½	1/3¾
Nottingham	1/8½	1/3¾
Nuneaton	1/8½	1/3¾
Oakham	1/7	1/2½
Oldham	1/8½	1/3¾
Ormskirk	1/8½	1/3¾
Oxford	1/8	1/3½
Oxted	1/7	1/2½
Paignton	1/8	1/3½
Peterborough	1/8	1/3½
Plymouth	1/8½	1/3¾
Pontefract	1/8½	1/3¾
Pontypridd	1/8½	1/3¾
Port Talbot	1/8½	1/3¾
Portsmouth	1/8	1/3½
Preston	1/8½	1/3¾
Pulborough	1/6½	1/2¼
Ramsgate	1/6½	1/2¼
Reading	1/8	1/3½
Redditch	1/8	1/3½
Redhill	1/7	1/2½
Ripon	1/7	1/2½
Rochdale	1/8½	1/3¾
Rochester	1/7½	1/3
Rugby	1/8½	1/3¾
Saffron Walden	1/5½	1/1½
St. Albans	1/8	1/3½
St. Helens	1/8½	1/3¾
St. Neots	1/6	1/1¾
Salisbury City	1/6	1/1¾
Salisbury Plain	1/7½	1/3
Sawbridgeworth	1/7	1/2½
Saxmundham	1/5	1/1
Scarborough	1/8	1/3½
Scunthorpe	1/8½	1/3¾
Selby	1/8½	1/3¾
Sevenoaks	1/7	1/2½
Sheerness	1/6½	1/2¼
Sheffield	1/8½	1/3¾
Shipley	1/8½	1/3¾
Shoeburyness	1/8	1/3½
Shoreham	1/7½	1/3
Shrewsbury	1/8	1/3½
Sittingbourne	1/6½	1/2¼
Skegness	1/7½	1/3
Sleaford	1/7	1/2½
Slough	1/7½	1/3
Southampton	1/8	1/3½
Southend-on-Sea	1/8	1/3½
Southport	1/8½	1/3¾
South Shields	1/8½	1/3¾
Spalding	1/6½	1/2¼
Stafford	1/8	1/3½
Staines	1/7½	1/3
Stamford	1/7½	1/3
Stevenage	1/7½	1/3
Stockport	1/8½	1/3¾
Stockton-on-Tees	1/8½	1/3¾
Stoke-on-Trent	1/8½	1/3¾
Stourbridge	1/8½	1/3¾
Stourport	1/8	1/3½
Stowmarket	1/5½	1/1½
Stratford-on-Avon	1/7½	1/3
Stroud	1/7½	1/3
Sunderland	1/8½	1/3¾
Sutton Coldfield	1/8½	1/3¾
Swaffham	1/5	1/1
Swanage	1/6½	1/2¼
Swansea	1/8½	1/3¾
Swindon	1/7	1/2½
Tamworth	1/8	1/3½
Taunton	1/7	1/2½
Tenterden	1/6½	1/2¼
Thames Haven	1/8½	1/3¾
Thetford	1/6	1/1¾
Thorpe Bay	1/8	1/3½
Todmorden	1/8½	1/3¾
Tonbridge	1/7	1/2½
Torquay	1/8	1/3½
Totnes	1/6½	1/2¼
Trowbridge	1/5½	1/1½
Truro	1/6	1/1¾
Tunbridge Wells	1/7	1/2½
Uppingham	1/7	1/2½
Uttoxeter	1/7	1/2½
Wakefield	1/8½	1/3¾
Walsall	1/8½	1/3¾
Walsden	1/8½	1/3¾
Walton-on-Naze	1/6½	1/2¼
Ware	1/8	1/3½
Warminster	1/5½	1/1½
Warrington	1/8½	1/3¾
Warwick	1/8½	1/3¾
Wellingborough	1/8	1/3½
Welwyn	1/7½	1/3
Welwyn Gar. City	1/8½	1/3¾
Wells (Norfolk)	1/5	1/1
West Bromwich	1/8½	1/3¾
Westcliff-on-Sea	1/8	1/3½
Weston-super-Mare	1/7½	1/3
Weybridge	1/7½	1/3
Weymouth	1/6½	1/2¼
Whitby	1/7½	1/3
Whitstable	1/6½	1/2¼
Widnes	1/8½	1/3¾
Wigan	1/8½	1/3¾
Wigton	1/7	1/2½
Willington	1/8	1/3½
Wilmslow	1/8½	1/3¾
Winchester	1/7	1/2½
Windermere	1/7	1/2½
Windsor	1/7½	1/3
Wisbech	1/6	1/1¾
Witham	1/6½	1/2¼
Woking	1/7	1/2½
Wokingham	1/6½	1/2¼
Wolverhampton	1/8½	1/3¾
Woodbridge	1/6	1/1¾
Worcester	1/8	1/3½
Workington	1/7	1/2½
Worksop	1/8	1/3½
Worthing	1/6½	1/2¼
Wrexham	1/8	1/3½
Wroxham	1/6	1/1¾
Wycombe	1/7½	1/3
Wymondham	1/5½	1/1½
Yeovil	1/7	1/2½
York	1/8½	1/3¾

• Painters 1d. less than other Craftsmen. † Plus 2d. per working day. ‡ Plasterers 1/11.
¶ Tradesman's Labourers 1/4½. Navvies and General Labourers 1/4½.
§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.

For Building Trade Wages in Scotland, see page 550.

PRICES CURRENT OF MATERIALS *

Note: Owing to the exceptional circumstances which prevail at the present time prices of materials should be confirmed by inquiry.
The softwood prices are the maxima established by the Timber Control Department.
At present linseed oil and genuine spirits of turpentine can only be supplied in cans in small quantities.
Lead can only be obtained for Government or A.R.P. work and urgent repairs.

BRICKS, &c.

Delivered to site, City and Central Area, Full Lorry Loads. £ s. d.
Best Stocks 4 15 0
Second Hard Stocks 4 8 0

Per 1,000. Delivered at London Goods Stations.

2½ in. Phorpres.	King's Cross Station. per 1,000.	To sites in W.C. District. per 1,000
	s. d.	s. d.
Pressed bricks	46 3	50 6
Cellular bricks	46 3	50 6
Keyed bricks	48 3	52 6
Cellular Keyed bricks	48 3	52 6
Rustic bricks	*66 3	*70 6
Cellular Rustic bricks	*66 3	*70 6
Single Bullnose	64 3	68 6
White bricks	*66 3	*70 6
Sandfaced bricks	—	75 6

* Subject to a special discount of 2s. per 1,000 ft. accompanied by order for Pressed. £ s. d.

White Midhurst Facing Bricks (delivered London site) 3 12 6
Best blue Pressed Staffs. 8 6 6
Do. Bullnose 8 16 6
Blue Wire Cuts. 7 4 0
Best Stourbridge Fire Brick :—
2½ in. ..... 7 15 0 3 in. 8 15 0

GLAZED BRICKS.

Best White Ivory and Salt Glazed Stretcher.	24 0 0	D'ble Str'tch'rs .. D'ble Headers .. One side & two ends	32 10 0 29 10 0 33 10 0
Headers	23 10 0	Two sides & one end	34 10 0
Quoins, Bullnose and 4½in. Flats	30 10 0	Splays and Squints	31 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

"PHORPRES" HOLLOW PARTITION BLOCKS.

2" per yd. sup. ..	2 3	3" per yd. sup. ..	2 9
2½" " " ..	2 6	4" " " ..	3 1

CLINKER CONCRETE.

2" per yd. sup. ..	1 6	3" per yd. sup. ..	2 0
2½" " " ..	1 8	4" " " ..	2 4

CRANHAM TERRA COTTA.

2" per yd. sup. ..	3 0	3" per yd. sup. ..	3 8
2½" " " ..	3 6	4" " " ..	4 7

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"	2 9	12" x 9" x 4"	3 9

Per yard super d/d. Free on site, London.

SAND.

Thames Ballast. ...	7	9	per yd. delivered 2 miles radius Paddington.
Pit Ballast	7	3	" "
Pit Sand.	9	9	" "
Washed Sand	10	9	" "
¾ in. Shingle	8	0	" "
¾in. Broken Brick	12	0	" "
Pan Breeze	8	3	" "

CEMENT.

Best British Portland Cement. Standard Specification delivered London Area in jute sacks (11 to ton), or paper bags (20 to ton) free (non-returnable) :— £ s. d.
4 ton loads and upwards site ..... Per ton 2 5 0
1 ton to 4 tons site 2 8 0
Alongside Vauxhall in 80-ton lots 2 2 6
"Ferrocrete" Rapid Hardening Cement:—
4 ton loads and upwards site 2 11 0
1 ton to 4 tons site 2 14 0
Alongside Vauxhall in 80-ton lots 2 8 6
Stores in Reserved Bins at Works 1/6 ton extra.
NOTE.—Jute sacks are charged 1s. 6d. each and credited 1s. 6d. nett, if returned in good condition within three months, carriage paid.
"Aquacrete" Water Repellent, "Blue Circle" Cement, 30/- per ton extra on ordinary "Blue Circle" Portland Cement prices.
"Colorcrete" Nos. 1 and 2 Coloured Rapid Hardening Portland Cement in 1-cwt. paper bags free (non-returnable) in 1-ton lots and upwards site. 3 15 0
"Colorcrete," not rapid-hardening, in 1-cwt. paper bags free (non-returnable), according to colour, from £7 to £15 10s. per ton.
"Snowcrete" White Portland Cement in 1-cwt. paper bags free (non-returnable)
1 ton and upwards site 8 15 0
Super Cement (Waterproof) paper bags free .. 3 15 0
Roman Cement £6 15 Keene's Cement, White 5 17 6
Parian Cement £5 10 " " Pink 5 12 6
Cementone Colours for cement according to tints per cwt. from £2 16s. 0d.

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	3 6 0	Sirapite, Coarse	3 10 0
" White ..	3 18 0	" Finish ..	3 18 0
Pioneer	3 10 6		
Super Carbo	2 7 6	4-ton loads and over London Area, paper bags free.	
Carbo Setting....	2 12 6		
Best Ground Blue Lias Lime	1 17 6	Grey Stone Lime Chalk Lime	2 2 0 2 2 0
Granite Chippings	1 5 0	Hair per cwt. ..	2 7 6

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months, carriage paid.
Stourbridge Fireclay in sacks 37s. per ton at rly. dep.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube ..... s. d. 2 10½
BEER STONE—RANDOM BLOCK—
Free on rail at Seaton Station. . per ft. cube 2 3
Delivered free on rail Nine Elms, S.R. " 3 1½
Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.

PORTLAND STONE—
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube ..... s. d. 4 5
Do. do. delivered on road waggons as above stations, per ft. cube 4 6
White basebed, 3d. per ft. cube extra.
NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ¼d. beyond 30 ft.
HOPTON-WOOD STONE—
F.O.B. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over P.ft.cb. 14 0
Sawn two sides 22 6
HOPTON-WOOD STONE—
Sawn three or four sides 27 *9
YORK STONE, BLUE—*Robin Hood Quality.*
Delivered at any Goods Station, London.
6 in. sawn two sides landings to sizes (under 30 ft. super) ..... per ft.super 5 0
6 in. rubbed two sides, ditto .... " 5 6
3 in. sawn two sides slabs (random sizes) ..... " 2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) ..... " 1 6½
1½ in. to 2 in., ditto ..... " 1 3½
HARD YORK—
Delivered at any Goods Station, London.
Scrappled random blocks. ..... per ft. cube 6 3
6 in. sawn two sides landings to sizes (under 40 ft. super) ..... per ft.super 5 1½
6 in. rubbed two sides, ditto .... " 6 1½
4 in. sawn two sides slabs (random sizes) ..... " 3 1½
3 in. ditto ditto ..... " 2 5
2 in. self-faced random flags ..... Per yd. super 7 6

CAST STONE.

Delivered in London are in full van loads, per ft. cube : Plain, 7s. 6d. Moulded, 8s. 6d. Sills, 10s. 0d.

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality.	£ s. d.
Dry Austrian Wainscot, per ft. cube	0 17 0
Dry American and/or Japanese Figured Oak, per ft. cube ..... 10 0 to	0 12 6
Dry American and/or Japanese plain Oak, per ft. cube	0 11 6
Dry sq. edged Honduras Mahogany, per ft. cube.	0 15 0
Dry log-cut Honduras Mahogany, per ft. cube. ..... 12 6 to	0 16 0
Dry Cuba Mahogany, per ft. cube	0 18 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 6
Dry Australian Walnut, per ft. cube	0 17 0
Dry Queensland Silky Oak, per ft. cube	0 11 0
Dry African Mahogany, per ft. cube	0 10 0
Dry African Whitewood, per ft. cube	0 8 0
Dry English Wainscot Oak, per ft. cube	0 16 0
Best Scotch Glue, per cwt.	3 0 0
Liquid Glue, per cwt. ..... 4 7 0 to	5 10 0

SOFT WOOD.

GOOD BUILDING DEAL.

Inches.	Per stan.	Inches.	Per stan.
4 ×11.	£38 10	3 × 6.	£31 10
4 × 9.	38 10	3 ×11.	38 10
4 × 8.	35 10	2 ×11.	38 10
4 × 7.	35 10	3 × 9.	37 10
3 × 8.	32 10	2½× 9.	37 10
3 × 7.	31 10	3 × 4½	30 0
2½× 7.	31 10	3 × 4.	30 0

Having secured the Contract— What about the Steel Scaffolding!

For the lowest Prices apply to the Oldest Firm in The Scaffolding Trade.

STEPHENS & CARTER LTD.
The British Steel Scaffolding Co.
731-761, HARROW RD., N.W.10.
Telephone No. Ladbroke 1191 (6 lines).

PLANED BOARDS.

1 × 11.	£43 10	1 × 9	£39 10

PLAIN EDGE FLOORING.

Inches.	Per sq.	Inches.	Per sq.
⅜.	22/6	1¼	38/-
½.	25/-	1½	42/6
1.	28/6		

TONGUED AND GROOVED FLOORING.		MATCHING (BEST).	
Inches.	Per sq.	Inches.	Per sq.
1.	29/-	⅝.	23/-
1¼	38/6	¾.	25/-
1½	43/-	1.	29/-

Ins. BATTENS.	s. d.	SAWN LATHS.	s. d.
¾ × 2 per 100 ft...	2 9	Per bundle	2 6

SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	31 5 0	18 by 10	16 10 0
22 by 12	26 5 0	18 by 9	14 17 6
22 by 11	23 12 6	16 by 10	14 7 6
20 by 12	23 2 0	16 by 8	11 6 0
20 by 10	20 15 0		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. ..... Per 1,000 f.o.r. London

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district.	4 2 6
Ditto hand-made ditto	4 17 6
Ornamental ditto	5 2 6
Hip and valley tiles (per dozen) Hand-made	0 8 6
Machine-made.	0 8 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

R.S. Joists, cut and fitted	£18 0 0
Plain Compound Girders.	20 10 0
" Stanchions	23 0 0
In Roof Work	27 10 0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.
MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in..	18 10 0	⅜ in. to ½ in...	17 0 0
⅝ in..	17 10 0	¾ in. to 2½ in...	16 10 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £10 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Standard Wrot. Mild Steel Tubes and Tubulars. Sizes. ⅛in. to ⅜in.	Sizes. ½in. to 2in.	Standard Flanges. Sizes. ¼in. to 2in.	Standard Fittings.
	%	%	%	%
Gas	56	61	57½	54
Water	51½	56½	52½	50½
Steam	48½	53½	47½	46½
Gal. gas ..	44½	49½	46½	45½
Galv. water	38½	43½	41½	41½
Galv. steam	33½	38½	36½	37½

C.I. HALF-ROUND GUTTERS—London Prices ex Works.

per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/3¼	1/0½	4d.
3½ in.	1/5	1/2½	4d.
4 in.	1/5	1/3¾	5½d.
4½ in.	1/6	1/6	6½d.
5 in.	1/9¼	1/7½	7½d.

O.G. GUTTERS.

3 in.	1/8½	1/5½	4½d.
3½ in.	1/10½	1/5½	5½d.
4 in.	1/10½	1/6	6½d.
4½ in.	1/11½	1/9	7½d.
5 in.	2/5½	2/-	9d.

RAIN WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in..	1/11½	1/3½	1/11½
2½ in.	2/0½	1/6	2/3½
3 in..	2/5	1/10½	2/9½
3½ in.	2/10½	2/3	3/3
4 in..	3/3½	2/8½	3/11½

NETT PRICES.
Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices, ex Stock.

	Pipe.	Bends, stock angles.	Branches. stock angles.
2 in. per yd. in 6 fts. ..	3/3½	2/3½	2/9½
2½ in. " ..	3/11½	2/6½	3/6
3 in. " ..	4/2½	2/9½	4/2½
3½ in. " ..	4/3½	3/6	4/10½
4 in. " ..	4/8½	3/11½	5/7½

L.C.C. COATED DRAIN PIPES.—London Prices, ex Stock.

3in. per yd. in 9 ft. lengths	Pipe.	Bends, stock angles.	Branches. stock angles.
cwt. qr. lbs.	4/9½	5/11½	9/5½
4 in. " 1 1 20.	6/11	6/9	11/10½
5 in. " 1 2 22.	8/5½	12/2	18/5
6 in. " 2 0 6	10/2	14/0½	23/0

Gaskin for jointing 65/- per cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who makes use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—(contd.)

	Per ton basis in London. £ s. d.		£ s. d.
IRON.—Staffordshire Crown, Merchant quality	14 0 0	to	16 0 0
IRON—Staffordshire Marked Bars	17 5 0	to	19 5 0
Mild Steel Bars	15 17 6	to	17 7 6
Mild Steel Hoops	17 12 6	to	19 2 6

Ex Merchant's Stock, per ton (two-ton lots).

	£ s. d.
Soft Steel Sheets, C.R. and C.A.—	
20 gauge	19 12 6
24 gauge	19 17 6
26 gauge	20 12 6
Galvanised Corrugated Sheets, 6 ft. to 9 ft.—	
20 gauge	20 17 6
24 gauge	21 7 6
26 gauge	22 12 6
Galvanised Flat Sheets, C.R and C.A.—	
20 gauge	22 7 6
24 gauge	22 17 6
26 gauge	24 2 6

Per ton.

	£ s. d.		£ s. d.
Cut Nails, 3 in. and up	22 5 0	to	23 15 0

ALL NETT.

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

		s. d.
Seamless Copper tubes (basis)	per lb.	1 1
Strong sheet	,,	1 3
Thin	,,	1 4
Copper nails	,,	1 3
Copper wire	,,	1 3

PLUMBERS' BRASS WORK.

Delivered in London.
Stamped by Met. Water Board.

CRUTCH HEAD SCREW DOWN BIB COCKS FOR IRON. EASY CLEAN.

½ in. ¾ in.
29/- 45/- per doz.

CHROMIUM PLATED TOILET SCREW DOWN BIB COCKS FOR IRON. EASY CLEAN.

½ in. ¾ in.
40/— 59/- per doz.

SCREW DOWN STOP COCKS FOR IRON.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
31/- 44/6 75/- 175/- 250/- 396/- per doz.

SCREW DOWN STOP COCKS WITH TWO UNIONS FOR LEAD.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
42/6 65/- 102/- 195/- 210/- 510/- per doz.

DOUBLE NET BOILER SCREWS.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
7/6 9/- 14/- 24/- 37/6 54/- per doz.

HEAVY CROYDON BALL VALVES.

½ in. ¾ in. 1 in. 1¼ in. 1½ in.
33/6 55/6 85/- 165/- 237/- per doz.

CAPS AND SCREWS.

1¼ in. 1½ in. 2 in. 3 in. 3½ in. 4 in.
9/- 11/- 16/6 29/- 42/- 45/- per doz.

BRASS FERRULES OF SLEEVES.

1¼ in. 2 in. 3 in. 3½ in. 4 in.
9/6 11/6 20/6 26/- 37/- per doz.

DRAWN LEAD TRAPS WITH BRASS CLEANING SCREWS.

1¼ in. 1½ in. 2 in. 3 in.
8 lb. Lead P. .. 17/6 23/- 32/6 66/6 per doz.
8 lb. Lead S. .. 21/6 27/6 39/6 73/- per doz.

SOLDER.—Plumbers, 1/2. Tinmen's, 1/4. Blowpipe, 1/6 per lb.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil, in drums	per gallon	0 4 8
Boiled ,, ,, in drums	,,	0 4 11
Turpentine, in drums (10 gals.)	,,	0 5 3
Genuine Ground English White Lead, per ton (In not less than 5-cwt. casks). Extra for 1-cwt. kegs over 5-cwt. casks is 2/9 cwt.		60 10 0

GENUINE WHITE LEAD PAINT

"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14 lb. tins) not less than 5-cwt. lots

	£ s. d.
per ton delivered	81 0 0
Red Lead, Dry (packages extra) .. per ton	52 0 0
Best Linseed Oil Putty ..... per cwt.	0 15 0
Size. XD quality ..... ftkn.	0 3 6

Turpentine substitute can be obtained and prices vary according to the quality from 2/9 gallon upwards.

VARNISHES, &c.

		Per gallon.
Oak Varnish	Outside	0 14 0
Fine do.	,,	0 16 0
Fine Copal	,,	0 18 0
Pale Copal	,,	1 0 0
Pale Opal Carriage	,,	1 4 0
Best do.	,,	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	,,	0 18 0
Fine Copal Cabinet	,,	1 2 0
Fine Copal Flatting	,,	1 0 0
Hard Drying Oak	,,	0 18 0
Fine Hard Drying Oak	,,	0 19 6
		Per gallon.
Fine Copal Varnish	Inside	1 0 6
Pale do.	,,	1 12 0
Best do.	,,	1 2 6
Best Japan Gold Size		1 12 6
Best Black Japan		0 10 0
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 7 6
Berlin Black		0 14 0
Knotting (patent)		0 15 0
French and Brush Polish		0 12 0
Liquid Dryers in Terebene		0 9 0
Cuirass Black Enamel		0 7 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY AND SELECTED GLAZING QUALITY.

per ft. super		per ft. super	
18 oz. O.Q.	2½d.	32 oz. O.Q.	5½d.
18 ,, S.Q.	2½d.	32 ,, S.Q.	5½d.
24 ,, O.Q.	3½d.	Obscured Sheet, 18 oz.	3d.
24 ,, S.Q.	3½d.	,, ,, 24 ,,	4½d.
26 ,, O.Q.	3½d.	Fluted ... 21 ,,	9d.
26 ,, S.Q.	4½d.	Em'lld 18oz., 5½d.,24oz.6½d.	

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

	Per ft.
	s. d.
Rolled plate, ¼ in.	5½d.
Rough cast double rolled, ⅛ in.	6½d.
Rough cast double rolled, ¼ in.	6½d.
Figured rolled, and Cathedral, white	6½d.
Figured rolled and Cathedral, tinted	9½d.
Rolled Sheet	6d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ⅛ in. thick	0 10½

Rolled plate is the same price as rough cast double rolled.

	Per ft. s. d.
Wire Rolled, ¼ in. thick	0 9½
Wired Cast, ¼ in. thick	0 9½
Georgian Wired Cast	0 10

	s. d.
"Calorex" Sheet, 21 oz.	2 6
,, ,, 32 oz.	4 0
,, Cast, ⅛ in. thick	0 10
,, ,, ¼ in. thick	1 0
,, ,, ½ in. thick	1 2
Non Actinic Glass, ¼ in. thick	0 9½
,, ,, ,, ½ in. thick	1 0
,, ,, ,, ¼ in. thick	1 2

"VITA" GLASS.

	s. d.
Clearsheet—not exceeding 1 foot	1 3
,, ,, 2 feet	1 6
,, over 2 feet	2 0
Polished plate not exceeding 1 foot	1 6
,, ,, 2 feet	3 0
Cathedral—not exceeding 1 foot	1 3
,, exceeding 1 foot	1 9
3/16 in. Wired Georgian Design. Sizes up to 96 inches long by up to 24 inches wide	3 0

LEAD, &c.

(Delivered in London.)	Per ton. £ s. d.
LEAD.—Sheet, English, 4 lb. and up	34 10 0
Pipe in coils	34 0 0
Soil pipe	39 10 0
Compo pipe	41 5 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills ..... per ton { £21 10 0

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from February 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A¹	A²	A³	B	B¹
Craftsmen	1/9½	1/9	1/8½	1/8	1/7½	1/7
Labourers	1/4¼	1/4	1/3½	1/3¼	1/2¾	1/2½

Aberdeen	A	Dumfriesshire	A²	Inverness	*
Ayrshire	A	Dundee	A	Inverurie	A¹
Banff	B	Dunoon	A	Kincardineshire	A²
Berwickshire	A²	East Fife	A	Kinross-shire	A
Bridge of Allan	A	East Lothian	A	Lanarkshire	A
Broughty Ferry	A	Edinburgh	A	Midlothian	A
Clackmannanshire	A	Fifeshire	A	Monifieth	A
Doune	A	Forfarshire	A²	Moray and Nairn	B
Dunblane	A	Glasgow	A	Newport	A
Dumbartonshire	A	Greenock	A	Peeblesshire	A²
Dumfries	A¹	Hamilton	A	Perth	A

Perthshire	A²
Peterhead	A²
Renfrewshire	A
Rothesay	A
Roxburghshire	A²
St. Andrews	A
Selkirkshire	A²
Stewartry	A²
Sutherlingshire	A
Stornoway	A²
Tayport	A
West Lothian	A

* This town has its own rates: Masons, 1/7½; Carpenters, 1/7½; Slaters, 1/7½; Plumbers, 1/8; Plasterers, 1/8½, but 1/9 is paid owing to the scarcity at present; Painters, 1/7½ and Labourers, 1/3.

The information given in this table is copyright. Rates of wages in England and Wales are given on page 548.

THE SCOTTISH BUILDER

NEW BUILDINGS

ABERDEEN. — HOSPITAL. — The Corporation is to reconstruct and extend the Woodend Hospital. Mr. A. Gardner, architect, 11, Broad-street, The Castlegate.

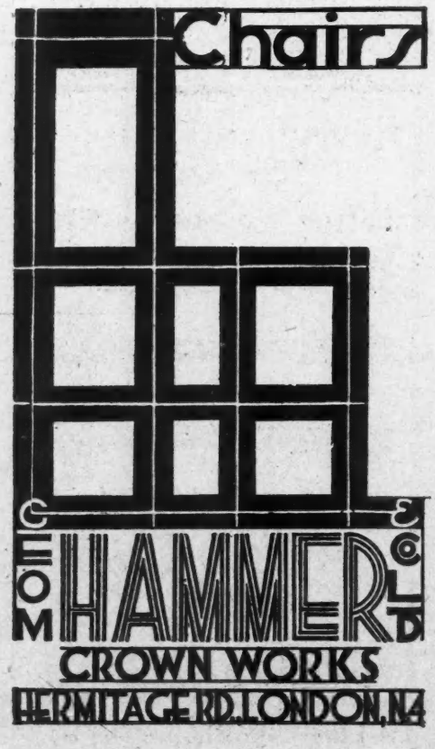
AYR.—SCHOOL.—Plans prepared by Mr. W. Reid, architect, Wellington-chambers, Wellington-square, The Sandgate, for reconstruction and extension of the St. Leonards public school.

BALLOCH.—HOUSING.—The property committee of Dumbarton County Council have appointed a deputation to interview the Department of Health and to press forward the erection of 180 houses at Dalvait-road, Balloch.

EDINBURGH.—EXTENSIONS.—Are to be made to the premises of the George Hotel, George-street, for Eglinton Hotels, Ltd., Royal British Hotel, Princes-street. Messrs. Henry Tanner, architects, 3, Hanover-square, London, W.1.

GLASGOW. — BUILDING. — The Glasgow Dean of Guild has granted permission to Messrs. William Dixon, Ltd., to build a roof over the coke ovens at their Govan Iron Works, Glasgow, in order to obscure the glow at night. The cost of the scheme is estimated at between £40,000 and £50,000.—Plans prepared for Messrs. Sandeman Bros., Ltd., Rachett Works, Possil, for alterations and extensions to their factory.

GLASGOW.—HALL.—A new church hall is to be erected in Meikle-road, Nether-Pollak, for General Assembly of the Church of Scotland, 121, George-street. Messrs. Abercrombie & Maitland, architects, 1, County-place, Paisley.



TRADE NEWS

Plastic Wallplug.

A plastic asbestos material from which the user can quickly make up any size or quantity of plugs for holding screws, anchor bolts, etc., has been placed on the market by Messrs. W. H. Willcox & Co., Ltd. "Philplug," as the material is called, is tamped into holes made with jumper or drill and the screws then driven in. Even in its plastic condition "Philplug" is claimed to carry its full load immediately. It is an important advantage that screws so embedded do not rust but may be withdrawn and replaced as often as required. Full details of this plastic wallplug (which has been used on the new Bank of England, the Queen's Hotel, Leeds, and the Nine Elms Granary) are obtainable from Southwark House, London, S.E.1.

TENDERS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

Tenders for A.R.P. work will be found under "A.R.P. Schemes."

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government departments.*

Acton.—Approx. 2,150 lin. yds. of chestnut pale fencing and gates around A.R.P. trench shelters, for T.C. : *A. Lockhart, Ltd., Brentford, £318.

Birmingham.—Works for E.C. Structural alterations, Highters Heath school : *Frank Davis (Builders), Ltd., College-rd., Birmingham, £295; alterations to hot-water service at Birchfield-rd. : J. Jackson & Co., Lawley-st., Birmingham, £142 10s.; repairs to asphalt flats at Selly Park : *Birmingham Asphalt and Paving Co., £158 1s.

Cardiff.—Making-up Downton-rd. (part of), Rumney; Dros-y-Morfa-rd., Rumney; Cambridge-st. (part of); Coslett-pl.; Moordale-rd. (part of); St. Augustine-rd. (part of), for T.C. City E. :—*Maberly Parker, Ynys Yard, Taffswell, Glam., £2,983 4s. 9d.

Cardiff.—Sub-station, together with substructure under, and concrete approach road, near Sanatorium-rd., for T.C. G. H. Whitaker, City Architect. :—*R. B. Fear, Warwick-st., Cardiff, £4,954 5s. 8d.

Chapel-en-le-Frith.—(a) 150 yds. of limestone rubble boundary wall round Castleton reservoir and fixing of iron gate and posts; (b) re-laying a 4-in. C.I. water main at Jagger's Clough in Hope Water scheme, for R.D.C. T. Dimsdale, S. Brady & Partington, consulting engineers, Market-st. :—(a) *James Wright, Bacup, £140 10s.; (b) *Z. and W. Wade, Whaley Bridge, £127 0s. 8d.

Downpatrick.—Alterations and renewals at Castlewellan waterworks, for R.D.C. E., 24, Arthur-st., Belfast. R. J. Carr, C., Council Offices, Downpatrick :—

G. Percy Trentham (Ireland), Ltd., Belfast	£3,813 10 9
Grainger Brothers (Ireland), Ltd., Holywood	2,989 13 11
James Ross & Son, Belfast...	2,986 4 6
Sayers & Co., Belfast ...	2,797 7 4
Patrick Fitzpatrick, Clough	2,593 18 10
John James Scallon, Irvinestown...	2,493 0 0
Hugh Patrick McKenna, Larne Harbour	2,480 0 0
Patrick Taggart & Sons, Downpatrick	2,430 4 2
George C. Eakin, Magherafelt	2,395 10 0
*White & Co., Durlowengdns., Belfast	2,350 2 8

Durham.—Works for C.C. :—Installation of electric power, central repair depot, Framwellgate Moor Colliery : *Cox Walkers, Ltd., Darlington, £269; supply and delivery of 15,000 cub. yds. of filling material to site at Aycliffe level crossing improvement : *Craig Brothers, Sacriston, £14,393 15s.; steelwork for bridge over L.N.E.R. at Travellers' Rest, Aycliffe : ¶Head, Wrightson & Co., Ltd., Thornaby-on-Tees, £1,737; alterations and improvements to Stockton Institution (W. J. Merrett, C.S., 43, Old Elvet, Durham) : *Watson & Coates, Middlesbrough, £690 (in lieu of previous tender); hot-water service and storage calorifier, Chester-le-Street Institution : *T. A. Taylor, Chester-le-Street, £258.

Erith.—Timber for general A.R.P. use, for T.C. : *J. Sharp & Sons, Ltd., £108 13s. 7d.

Fareham.—Construction in reinforced concrete of Hoeford bridge, on Gosport-Riseley Common-rd., at Hoeford, for Hampshire C.C. J. S. Hall, E., The Castle, Winchester : *Warings, Ltd., Hilsea, Portsmouth, £1,188.

Gateshead.—Canteen, South Shore-rd., for British Ropes, Ltd. J. M. Rounthwaite, architect, 3, Ellison-pl., Newcastle-on-Tyne :—*J. Milne & Sons, Ltd., Wellfield Joinery-wks., Coatsworth-rd., Gateshead.

Glasgow.—Additions, etc., at the Clyde Iron works. Maxwell, Stewart and Maxwell, architects and quantity surveyors, 57, Oswald-st. :—Excavation, brick and mason works, etc. : *Stellmacs, Ltd., Glasgow.

Glasgow.—Electrical sub-station, Pine-st., Rutherglen-rd., Oatlands. G. Morgan, electrical engineer and surveyor, Electricity-bldgs., Waterloo-st. :—Excavation, brick and mason works : *R. Bruce & Son, Ltd., Tollcross.

Godalming.—Pastor's vestry, with boiler-house underneath, central heating system, also large upstairs classroom, at Queen-st., for Baptist Church Trustees. F. Boreham, Sons & Wallace, architects, Doric House, Museum-st., W.C.1 : *H. W. Fisk, Ltd., 2, Wharf-st., Godalming.

Gosforth. — Factory :—*Cussins (Contractors), Ltd., Grange Park Estate, Gosforth.

Hammersmith.—Repairs to 73, Westwick-gdns., for B.C. : *Arthur Morley, 10, Hebron-rd., W.6, £97 10s.

Haydock.—Auxiliary fire station, Lyme-st., for U.D.C. R. Main, S. : *H. Harridge & Co., Ltd., Wargrave-rd., Earlstown.

Hebden Royd.—Surface tarring of several roads, an area of approx. 19,000 sq. yds., for U.D.C. H. L. Bottomley, E. and S. : *S. Sutcliffe & Son, Ltd., Mytholmroyd.

Hendon.—Additional steel for Broadfields-avenue council school, for T.C. : *Cook & Co., Ltd., S.W.9, £243.

Hickley.—Extending of works premises at Southfield-rd., for Bennett Bros. (Hosiery Manufacturers and Dyers), Ltd. E. J. Williams, architect, 13, New-st., Leicester : *Bowles & Son, 8, Gladstone-st., Leicester.

Lambeth.—Installation of electric light, new bathroom and carrying out repair and redecoration, 20, Willington-rd., for B.C. : *H. D. Harding, Ltd., 5, Vassall-rd., S.W.9, £100.

Leatherhead.—Gravel and sand aggregate asphalt, for U.D.C. J. L. Davies, F.S.I., etc., E. & S. :—*Geo. Wimpey & Co., Ltd., 27, Hammersmith-gr., London, W.6.

Leeds.—Alterations at Seacroft Grange as temporary school accommodation, for E.C. G. Guest, Director of Education, Education Offices. P. B. Haswell, B.Arch., A.R.I.B.A., Education Architect. Quantities by Education Architect's Department :—*L. Harpham, Ltd., 109, Kirkstall-rd., Leeds, 3.

Liverpool.—Works for City Council : Repairs and decorations at 28, Mandeville-st., Walton, ‡J. H. Taylor, Ltd., Liverpool, £126 5s.; 20 experimental non-timber houses, Sparrow Hall estate, ‡Direct Labour, £10,840.

DON'T TENDER UNSUCCESSFULLY

SECURE CONTRACTS WITH

THE STEEL SCAFFOLDING CO., LTD.

"BIG BEN TOWERS." 23, OATLANDS DRIVE, WEYBRIDGE, SURREY. 'Phone: Walton 614 and 615.

¶London (Air Ministry).—Contracts placed for week ended April 27 :—

Structural steelwork : Tees Side Bridge and Engineering Works, Ltd., Middlesbrough.

Heating : Brightside Foundry and Engineering Co., Ltd., Birmingham.

Air filtration : G. N. Haden & Sons, Ltd., London.

Various buildings : Walter Lawrence & Son, Ltd., London.

¶London (H.M.O.W.).—Tenders accepted for week ended April 26 :—

Building work, Wm. Willett, Ltd., Sloane-sq., S.W.1; Harry Neal, Ltd., 117, Baker-st., W.1; T. H. Kingerlee & Sons, Ltd., 35a, Queen-st., Oxford; Ashford Builders Co., Ltd., Ashford House, 3, Bloomsbury-pl., W.C.1; E. Taylor & Co., Ltd., Littleborough; and Kirk & Kirk, Ltd., Atlas-wks., Putney, S.W.15.

¶London (War Department). — Contracts placed for week ended April 20 :—

Yorkshire, miscellaneous work, Clarke & Co., 13, Victoria-st., London, S.W.1.

Cornwall, temporary camps, John Williams & Co. (Cornwall), Ltd., South-st., St. Austell.

Devon, temporary camps, F. R. Hipperson & Son, Ltd., 6, Broad-st.-pl., E.C.2.

Somerset and Wiltshire, temporary camp, A. J. Dunning & Sons, Weyhill.

Wiltshire, temporary camp, Building and Public Works Construction Co., Ltd., Swindon.

Sussex, temporary camp, F. R. Hipperson & Son, Ltd., 6, Broad-st.-pl., E.C.2.

Middlesex, hutting, G. Barker, 48-50, New-rd., E.1.

Staffordshire, temporary camp, Tanhouse Estate Building & Development Co., Ltd., Hamstead-rd., Birmingham, 22.

Cheshire, temporary camp, J. Bromley, 74, Watling-st., Churd, Stretton.

Co. Durham, hutments, Frank Haslam, Ltd., Regent-chams., Hall Cross, Doncaster.

Kent, building work, Rice & Son, Ltd., 15, Stockwell-rd., S.W.9.

Co. Durham, hutments (two contracts), J. Cryer & Sons, Poulton-rd., Fleetwood.

Yorkshire, hutments, W. G. Robson, Ltd., Hamforth-st., Sheffield, 6.

Eastern Command, hutting, Ringmer Building Works, Ltd., Ringmer, Lewes; Lansdowne Building Co., Ltd., 17, Lansdowne-way, Lambeth, S.W.8.

London.—Electric passenger lift, Mile End Hospital, for L.C.C. :—*Evans Lifts, Ltd., £910.

Macclesfield.—Works for T.C. Herbert Lapworth & Partners, engineers, 25, Victoria-st., S.W.1 : Water tower, *Cooper Bros. (Builders), Ltd., Catherine-st, Macclesfield, £4,451 10s. 10d.; steel tank, *Whessoe Foundry and Engineering Co., Ltd., Darlington, £3,020.

Macclesfield.—Re-stuccoing of 24 council houses, Hurdfield Housing estate, for T.C. M. Tetlow, A.R.I.B.A., Borough Architect, Pear Tree House, Jordangate :—*J. Blower, 2a, Longshutt-la. West, Stockport, £465.

North Shields.—Additions in Duke-st. and Milbourne-pl., for Smith's Dock Co., Ltd. W. Stockdale, architect, 73, Howard-st. :—*Hastie D. Burton, Ltd., King-st., North Shields.

Northwich.—Senior school for Chester Diocesan Board of Finance, Abbey-cham., Chester. Plans by C. Saxon, F.R.I.B.A., Lockwood, Abercrombie & Saxon, architects, 2, Stanley-st., Chester :—*W. Forster & Son, Moss-rd., Castle Northwich.

Oakham.—Laying and jointing of about 3 miles of 5-in. water main, constructing concrete underground tank and building pumping station at Empingham, and provision of cast- or spun-iron pipes, for R.D.C. Pick, Everard, Keay and Gimson, engineers, 6, Millstone-la., Leicester :—Contract 1, laying mains, etc. : *Warton Hayes, Ltd., Biggleswade, £3,653; Contract 2, pipes : *Turner Asbestos Cement Co., Manchester, £1,750.

Oxford.—Church hall, Edgeway-rd., New Marston. T. Lawrence Dale, F.R.I.B.A., architect, Lloyds Bank-chambs., Carfax : *D. Fisher & Son, Magdalen-rd., Oxford.

Poplar.—Supply of Telpher bridge, for B.C. : *Simon-Carves, Ltd., £6,216.

Prestwich.—Alteration and adaptation of existing out-buildings as mortuary at Brooklands, Bury Old-rd., for T.C. Handel Kay, B.E. and S.: — *John Webster & Co. (Builders), Ltd., Park-la., Whitefield.

St. Pancras.—External painting, etc., at Council's estates, for B.C.: *Goddard & Phillips (Somers Town estate) £480, (Barnes House), £137 and (Brookfield estate) £497; *A. J. Thompson & Co. (London), Ltd., (Una House), £343.

Shaftesbury.—Approx. 2½ miles of 5-in. water main, and construction of reinforced concrete reservoir for Boyne Hollow Water scheme, for R.D.C. A. J. Allen, E., Half Moon-st., Sherborne:—

Wessex Contractors, Ltd., Dorchester	£7,440	0	1
Lester Construction Co., Ltd., Westminster, S.W.	7,116	5	4
Durnford Construction Co. (Bristol), Ltd., Bristol	7,047	12	5
Smith & Marchant, Shepton Mallet	6,958	4	2
Constable, Hart & Co., Ltd., S.W.1	6,760	2	2
Roads and Sewers, Ltd., Slough	6,723	0	0
W. G. Beaumont & Son, E.3	6,417	11	10
Fred Pilkington, Harrogate	6,399	15	6
General Contracting and Engineering Co., Hounslow	6,393	0	7
Bridgewater Bros., Ashtead	6,345	5	0
W. G. Northcott & Co., Ltd., Exeter	6,341	2	6
King's Asphalt, Ltd., Exeter	6,259	5	1
E. J. D. Morgan, Trowbridge	6,249	15	7
George Pollard & Co., Ltd., Taunton	6,205	6	1
Dare & Son, Ltd., Oxford	6,165	0	0
Henry Holbrow, Slough	6,161	1	3
H. J. Walker & Son, Bristol	6,045	0	0
Hadsphaltic Construction, E.C.3	5,980	18	11
Thomas Free & Son, Bristol	5,926	6	6
Walter Smith (Public Works), Ltd., Sevenoaks	5,848	1	7
W. R. Whitehouse (Mitcheldean), Ltd., Gloucester	5,715	11	6
J. W. Ashdown, Ltd., S.E.14	5,666	16	6
N. Buckley, Weymouth	5,532	14	6
Francis Jackson Developments, Ltd., Ickenham, Middlesex	5,489	19	4

South Cambs.—External treatment to walls of houses, for R.D.C.. T. Stone, architect, County Hall, Hobson-st., Cambridge:—*A. Ewers, 5, The Tofts, Great Wilbraham, 32 houses, £594; *H. Rose & Sons, 20, Warren-rd., Milton-rd., Cambridge, 16 houses, £302 8s.

South Shields. — Alterations to "Royal Hotel," Ocean-rd., for J. Laing & Co. F. W. Newby, architect, 10, King-st.:—*Milton, Swales, Ltd., Imeary-st., South Shields.

South Shields.—Extensions to Wire Rope Co., in St. Hilda-st. F. W. Newby, architect, 10, King-st.:—*R. Summerbell & Son, Rutland-st., South Shields.

Spalding.—External painting of 144 council houses in various parishes, for R.D.C. F. B. Saunders, L.M.I.A.A., architect, Holyrood House, Churchgate, Spalding:—12 houses: *A. E. Biggadike, Whaplode, £25 5s.; 20 houses: *Hemmant Bros., Moulton, £37; 36 houses: *W. H. Bishop, Deeping St. Nicholas, £63 10s.; 28 houses: *A. Prior, Surfleet, £49; 14 houses: *C. Rawding, Surfleet, £31 10s.; 14 houses: *H. Booth, Donington, £26 10s.; 20 houses: *J. H. White, Crowland, £45 10s.

Stoke-on-Trent.—Administration block as extensions to North Staffordshire Royal Infirmary, Princes-rd., Harthill, for the Board of Governors. Wood and Goldstraw, architects, Victoria-cham., Station-rd., Tunstall:—*Stephen Heath & Son, Brunswick-st., Newcastle-under-Lyme.

Stoke-on-Trent. — Additions to Carlton Works, Copeland-st., for Wiltshaw and Robinson, Ltd. Wood and Goldstraw, architects, Victoria-cham., Station-rd., Tunstall:—*Sambrook Bros., Ltd., Hamil-rd., Burslem, Stoke-on-Trent.

Tunstall.—Tunnel kiln and warehouse as extensions to Newfield Pottery works, for Alfred Meakin (Tunstall), Ltd., Royal Albert and Victoria Potteries. Wood and Goldstraw, architects, Victoria-cham., Station-rd.:—*Sambrook Bros., Ltd., Hamil-rd., Burslem, Stoke-on-Trent.

Witney.—Laying of approx. 200 yds. of 3-in. cast-iron water main and fittings at Carterton, for R.D.C. S., 103, High-st.:—*A. Groves & Sons, Ltd., Milton-under-Wychwood, Oxon, £107.

Worksop.—Extension to health dept. garages, Carlton-rd., for T.C.: *Leverton & Brown, Ryton-st., Worksop, £92 10s.

'phone:—
BAYswater 0163
or write that enquiry for the
FLOORINGS
in T & G Strip, Block, Paving or Composition, required.
TURPINS PARQUET FLOORING Co. Ltd.
25 NOTTING HILL GATE, W.11
Established 1866

ROADS LIVERSEDGE INTERWOVEN HIGH TENSILE STEEL FABRIC STRUCTURES
The Liversedge Reinforced Concrete Engineering Co. Ltd.
15, Breams Buildings, E.C.4. Tel.: Hol. 3718, 6467

Boyle's PATENT "AIR-PUMP" VENTILATOR.
OVER TWO MILLION IN USE.
ROBERT BOYLE & SON,
Ventilating Engineers,
65, HOLBORN VIADUCT, LONDON, E.C.1.
Tel. Central 4583.

THE LONDON & LANCASHIRE INSURANCE Co. LTD
INSURANCES ON BUILDINGS in course of ERECTION
LOWEST RATES
Head Offices:
155, LEADENHALL ST., LONDON, E.C.2
45, DALE ST., LIVERPOOL.
Chief Administration:
7, CHANCERY LANE, LONDON, W.C.

HOSPITAL & SCHOOL STOVES
SOLE MAKERS OF
WRIGHT'S IMPROVED AND ALSO SHORLAND'S PATENT WARM AIR VENTILATING PATTERNS.
GEO. WRIGHT (LONDON) LTD
19 NEWMAN ST. OXFORD ST. LONDON, W.1.

BUY BRITISH
FLOORINGS
WOOD BLOCK PARQUET
SOLID T & G HARDWOOD
PANELLING
POINT PLEASANT LONDON S.W.18
Stevens & Adams Ltd.
PHONE PUTNEY 5611 (6 lines)

C. & R. LIGHT
PHONE: BIS. 3952
54, Great Eastern Street, London, E.C.2.

"Britisher" Graded Furniture with 100 years' Reputation
Reproduction Antique. Modern
Handmade, Unit and Made-to-measure Furniture & Upholstery
Write for lists and mention this paper.

For SHELTERS consult
W. & M. NEGUS, LTD
STATION WORKS
KING JAMES ST., S.E.1
WATerloo 5474